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ORIGINAL ARTICLES.

FRACTURES OF PATELLA, WITH REPORT OF CASE TREATED BY SUTERING.

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In considering the subject of fractures of the patella, I propose to first direct attention to some points in the anatomy of the bone, then the etiology, pathology, symptoms, prognosis, causes of non-union, treatment, and conclude by giving the history of a case which came under my personal observation.

Anatomy.—The general outline of the patella is triangular. To the apex and underlying rough surface is attached the ligamentum patella; and to the margins the tendinous expansion of the vasti. The upper border is oblique in direction, the outer edge being about one third of an inch higher than the inner. It is marked by a transverse groove into which anteriorly, the tendon of the quadriceps extensor is inserted and continued over the front of the bone to become continuous with the ligamentum patellæ.

Until pointed out by MacEwan,[1] this aponeurosis in front of the bone was supposed to be either wanting, or of such limited extent as to be unworthy of consideration. To demonstrate its existence and character, he divided longitudinally the quadriceps extensor tendon, patella and ligamentum patellæ, then sawed the patella partly through in a transverse direction from the articular surface so as to admit of easy fracture of the bone. After breaking the bone, the lower fragment was torn from its ligamentous and aponeurotic attachments, leaving them exposed.

In young children he found the ligamentous structures in front of the bone were represented by a thin film, in many places scarcely distinguishable from the cartilage. In advanced life they were attenuated especially over the center of the patella.

In six instances ranging from fourteen to forty-five years of age, (the period during which fractures of the patella occur), the aponeurotic structures ran in a distinct band over the front of the patella continously from the tendon of the quadriceps to the ligamentum patellæ. The antero-posterior thickness of this layer ranged from one thirty-second to one sixteenth of an inch. The bulk of these fibres were longitudinal in direction, many continuous from tendon to ligament; a few were oblique.

The patella is the analogue of the olecranon, and serves to increase the power of the extensor muscles by causing them to act on the knee at a greater angle. With the limb extended and the quadriceps inactive, it is freely movable from side to side and upward and downward, and does not become fixed until the knee is flexed to an angle of 130°. This great mobility is difficult to overcome in the treatment of fractures.

Etiology.—Fractures of the patella may be the result of either direct or indirect violence. The former is due to the application of the fracturing force to the bone through the medium of the over-lying soft tissues, with or without wound, and the latter to the violent contraction of the

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quadriceps extensor muscle in extraordinary efforts made to prevent the body from falling, in lifting heavy weights, in assuming the erect position from kneeling, or any other condition in which the muscle is brought vigorously and suddenly into action. Direct traction is also said to produce it, and in proof of this Stimson[2] instances a case recorded by Garreau, where the second fracture occurred in the upper fragment after ligamentous union of the primary fracture with 4cm. separation. Clinically those the result of indirect violence are the most common. Of 127 cases observed by Hamilton, 107 were assigned to this cause. The mechanism of those resulting from direct violence is simple, that of the indirect is more complex. It is thus described by MacEwan: "The sudden development of the full retractile force of the powerful quadriceps causes the patella to be jerked upward, relatively to the femur, beyond the position where it usually lies supported laterally by the femoral patellar surface. The patella being held below by the powerful ligamentum patellæ, rests on the apex of its posterior vertical edge, which thus becomes the point upon which is developed the greatest energy of the two opposing forces; that of the contractile power of the quadriceps extensor, and the weight of the body on the other." That is, the patella becomes converted into a lever, the fulcrum being the apex of the vertical ridge resting on the condyle of the femur; the active force, the contraction of the quadriceps extensor attached to upper border of the bone; and the passive, the resistance of the ligamentum patellæ. The bone gives way; the contraction continuing, the fragments separate and the aponeurotic coverings being more elastic, rupture at a lower level than the line of fracture. This laceration may extend into the capsule of the joint and the præ-patellar bursa. Many cases attributed to direct violence are doubtless the result of indirect, because if the patient fall and strike upon the knee, he naturally assigns the fall as the cause.

Forcible flexion of an anchylosed knee where the patella is adherent to the femur may produce fracture. Cases are recorded by Desault, Valette, and Marcy, where both patellæ have been simultaneously fractured.

Pathology.—1. Direct.—The superficial soft tissues will be found contused or lacerated. The line or lines of fracture may assume any direction, depending upon the point of application and character of the fracturing force—seldom, however, is it transverse. Paul Swain[3] records a case of the latter in a girl five years of age, who fell on some sharp shingle on the beach and divided the patella transversely as if the section had been made with a knife. The præ-patellar aponeurosis, the fibres of which we have already seen are mostly vertical in direction, is not lacerated to any great extent, hence there is less separation of fragments and greater tendency to bony union.

2. Indirect.—The line of fracture is transverse or slightly oblique, and at or just below the middle of the bone. The degree of separation of the fragments is dependent upon the condition and proportionate to the extent of laceration of the præ-patellar aponeurosis. If the aponeurosis remains intact or only slightly torn there will be little or no separation of the fragments and bony union will result.

When laceration occurs bony union without resort to operative measures is the exception. A satisfactory explanation of this was first given by MacEwan[4] in 1883. As already pointed out the laceration of the aponeurosis occurs at a lower level than the line of fracture and, the direction of the fibres being longitudinal, the free end presents a shreddy appearance. On the occurrence of fracture, the retraction of the quadriceps extensor tendon, from its manner of insertion into the upper fragment, tilts it forward so that the fractured surface presents anteriorly and those shreds instead of remaining free, become firmly entangled amongst, and mechanically intimate with the projecting spiculæ on the fractured surface, so that it is necessary to remove a thin section of the bone to free them. Flexion of the knee which follows the accident increases this tilting and entanglement. This condition of parts had been verified in cases of recent fractures operated on, and confirmed post-mortem by Rushmore of Brooklyn, in two cases where he found the periosteum lacerated at a lower level than the line of fracture and folded over the upper fragment like an apron. Riedel[5] has also found this condition post-mortem, and calls attention to rupture of the upper recess of the synovial cavity. Whether this occurs at the time

or follows as the result of elastic compression applied, is uncertain. Experimentally he ascertained that with 200 c. c. of fluid in the joint cavity, the upper recess gave way under 25-30cms. pressure of mercury. Fowler[6] believes that this rupture may be produced by the same violence which fractured the patella.

Hæmarthrosis is always present but seldom to any great extent. Geo. R. Fowler[7] records a case of recurring hemorrhage. Soon after accident the joint became distended with blood. Under evaporating lotions and compression the hemorrhage was arrested and on the seventh day a plaster of Paris splint was applied. Three days later it was necessary to remove the splint on account of recurrence of the hemorrhage. Aspiration was tried but failed; cold compresses were again applied. On the fifteenth day after injury, the pulse and temperature rose and the tension of the joint increased. The joint was opened, a half-pint of coagulated blood turned out and the source of hemorrhage found to be the internal articular artery which had been torn across by the giving way of the accessory band of ligamentous tissue extending from the vastus internus muscle to the head of the tibia. This band was ruptured about one and a half centimeters below the line of fracture. Hemorrhage and effusion into the joint produces further separation of fragments by distension of the joint cavity.

Symptoms.—As a rule the diagnosis is easy. There is a history of trauma, or sudden snap in the knee with or without fall, pain, swelling and diminished or absolute loss of power of extension. In the direct form there is evidence of injury to soft tissues; the separation of the fragments is not marked because of a more or less intact condition of the aponeurosis; crepitus can be elicited, although not in every case. Morris[8] records the case of a girl who struck her knee against a chair, where careful examination failed to detect fracture. She continued to walk around, up and down stairs, with considerable pain and swelling in joint. Two days later a posterior splint was applied and on subsidence of the effusion, crepitus could be detected by fixing the patella between finger and thumb of one hand and carefully pressing with the finger of the other around the margin of the patella. An oblique fracture without separation of the fragments was thus diagnosed. Morris strongly recommends this method of examination in obscure cases.

A source of error, as pointed out by Tillaux, is an effusion of blood into præpatellar bursa which may give a sense of crepitation, and the blood clots may be mistaken for fragments.

The degree of separation in the indirect form depends upon the extent of the laceration of the aponeurosis. Morris has shown in the cadaver after subcutaneous fracture of the patella by a chisel, that when separation induced by bending the knee reaches half an inch, the aponeurosis gives way. Hamilton holds that separation of one inch indicates laceration of the aponeurosis. The extent of separation cannot be taken as an absolute criterion of the condition of the soft tissues. Upon this also depends the degree of loss of function. Tresort[3] records the case of a robust man who continued at work for three weeks, then suspected fracture from the swollen condition of the knee and on seeking advice two months later, a transverse fracture between the middle and lower thirds could be easily detected. MacEwan[1] also records the case of a student who fractured his patella while playing foot ball, who could walk without much difficulty or pain but with a sense of crepitation in the joint. Where the separation is well marked, a groove in the skin indicates the site of fracture. This can be deepened by flexing the knee —a proceeding always to be avoided because it increases the extent of laceration sustained by the soft tissues and the entanglement of lacerated fibrous tissue in rough fractured surfaces. It is the exception to be able to obtain crepitus in the indirect form unless the aponeurosis is intact. Crepitus may be found with laceration when the fragments are approximated. This occurs between the posterior edges of the fragments and is no indication of the absence of intervening soft tissues. The effused blood also deadens crepitation.

Prognosis.—Prior to the introduction of operative treatment, ligamentous union has been the rule, and when such anatomical defect exists there must remain more or less functional disability. Where the continuity of the bone has been restored by bony union the result is different. Then only can organic changes in

the structures entering into the formation of the joint, or intrinsic injury to the quadriceps extensor muscle at the time of the accident, diminish the former strength and usefulness of the limb. With ligamentous union there remains weakness of the limb through loss of extensor power. This is evidenced by inability to bring the foot forward or to elevate the heel from the horizontal position of the knee extended. On slight flexion of the knee this can be accomplished. The shortened quadriceps extensor is put on the stretch and can then contract, or the fascial expansion of the vasti extending over the capsule of the knee laterally may act on the lower fragment. The latter applies more especially to cases where the upper fragment has become adherent to the femur and consequently cannot be acted on by the muscle, and where in flexion of the knee the inter-space between the fragments is increased. Bergmann[9] (1887), ascribes this diminished power of extension more to trauma sustained by the muscle than to incomplete consolidation. The degree of separation is not proportionate to the loss of power. Stimson[10] records a case with four and one-half inches of separation when the limb was extended, and although there was no power of active extension, except to a slight degree through the aponeurotic attachments in the position of nearly complete extension, four years after the injury the patient walked easily and securely; also Bryant[11] notes where with four inches interval, a man could ascend a ladder as well as ever.

Causes of Non-union.—The following causes have been assigned for non-union: separation of the fragments by the contraction of extensor muscle; effusion into the cavity of the joint; deficient blood supply, and the inter-position of the præpatellar aponeurosis.

1. Separation of fragments by the contraction of the extensor muscle. The upper fragment is retracted by the muscle, which however soon assumes the condition of rest. If no attempts were made to bring the fragments into apposition this could be accepted as a cause, but this muscular contraction can be overcome in recent cases by pressure downward with the fingers. This MacEwan found to be the case where the parts were exposed shortly after the accident. In old cases with long standing ligamentous union the muscle is permanently contracted and here arises the difficulty of bringing the fragments into close apposition.

2. Effusion into the cavity of the joint. This effusion is a mixture of blood and synovial fluid and is at times well marked. Distension of the joint cavity may for a time further displace the fragments by forward pressure but, as absorption rapidly ensues, its effect can only be of temporary significance. Blood clot may form on the fractured surfaces and remain unabsorbed for a time. This condition exists in all forms of fractures, and can with equal truth apply to non-union in other localities. It does not however, and even an encrustation of blood on the surface of the fragments where accurate coaptation is not obtainable, may be of service in forming a transient medium in which the osteoblasts can obtain support and develop.

3. Deficient blood supply. The vascularity of the patella has been demonstrated fully by injection of its blood vessels and further by the parenchymatous oozing after fracture occurs, and of the character and extent of this we have ocular proof in operations on the knee joint, such as a resection where section of the patella is made. If this be a sufficient cause it should apply with equal force to other than transverse fractures, but the reverse holds that bony union generally follows in fractures resulting from direct violence.

4. Inter-position of the præ-patellar aponeurosis. This has already been referred to in the pathology, and all must admit this as a potent cause of non-union.

Treatment.—This consists in obtaining and maintaining accurate coaptation of the fragments accomplished either by mediate or immediate means of fixation, and the expectant plan or treatment by massage. The latter method was introduced by Tilamus of Amsterdam, who, at the French Congress of Surgeons in 1885, reported six cases with good results. On the first day he applies elastic compression and cold compresses to the joint, with elevation of the limb; on the second, while the fragments are held in apposition by the fingers, the thigh is thoroughly massaged. This is repeated every twelve hours. On the fourth day, passive and active movements of the joint are practiced, and on the eight day, the patient is allowed to get up. In the six cases the

patients could walk by the fourteenth day and, in spite of movement, the distance between the fragments became daily less. He believes that rapid union and the early employment of motion are the best means to prevent shrinkage of the capsule, false anchylosis and muscular atrophy. Ligamentous union of considerable length occurred in every case. His results bear a very favorable comparison with cases treated by long continued fixation and confinement. Another interesting case in this connection is recorded by Flower.[12] It is that of a milkman, who continued at his work during the whole period of treatment. A posterior splint of light hoop-iron was shaped to the limb and held in place by straps and buckles. Rollers so placed as to secure the fragments in as favorable a position as possible, were held in place by adhesive plaster. The splint was discarded in about five weeks, and the result was as good as that which followsany non-operative method of treatment.

The variety and complexity of the means proposed for the mediate fixation of the fragments is a true indication of the difficulties to be overcome, and the general principle underlying all is fixation of the limb in the extended position, the bringing of the fragments into apposition and retaining them by direct pressure. The small size and mobility of the fragments render this a difficult task. Pressure exerted on the upper fragment, either by circular ring or oblique bandage of whatever character, compresses it against the femur, thus depressing the tendon of the quadriceps extensor, which, being inserted into the anterior surface of the bone, causes the fractured surface to assume an angle with the long axis of the limb. The same applies to the lower fragment but in a less marked degree. The fractured surfaces cannot thus be brought into accurate apposition throughout. They form, as it were, a V-shaped gutter, their posterior margins being in contact and the anterior separated. Further, the upper margin of the patella is not horizontal, the outer end being at a higher level than the inner, hence the coaptating pressure will act with greatest effect on the outer half, so that externally the fractured surfaces may be in apposition while the inner are apart and the upper fragment is rotated somewhat outward. This explains the condition found in ligamentous union that the bond of union is always longest on the inner side. Another danger of this backward pressure of the upper fragment is the formation of adhesions between the femur and patella. Retentive apparatus should never be applied immediately after the accident; if done then it would increase the tendency of the fragments to tilt forward and the constricting effect would tend to increase the intra-articular effusion.

Time should be allowed for the subsidence of swelling by absorption. This is best kept within bounds by the application of ice. Elastic compression by a rubber bandage is recommended by some, but this must be used with the greatest caution because, as Riedel pointed out, rupture of the upper synovial sac may be produced. Compression by wrapping the joint in a large layer of cotton-wool and applying a flannel bandage is much safer and answers the same purpose. To overcome this swelling, Schede, in 1872, aspirated the joint and irrigated with 3 per cent. solution of carbolic acid. He then coaptated the fragments as closely as possible with adhesive strips and applied a plaster-of-Paris dressing. This was renewed at the end of a week, the fragments being brought into closer apposition with the same dressing for fixation. If neccessary it was again renewed in a week. By this means he obtained osseous union in three cases and firm ligamentous union in two.

For a full review of the mechanical means that have been employed in the treatment of the fracture, I would refer you to a paper by Dr. Charles F. Stillman, published in the Journal of the American Medical Association, February 28th, 1891, entitled "A Historical Record of the Devices used in the Mechanical Treatment of Simple Fracture of the Patella."

The immediate fixation of the fragments is accomplished by hooks or by some form of suture. Malgaigne's hooks were introduced about 1840. They were soon discarded on account of the disastrous results following their use in preantiseptic times. In later years they have again come into use. Morton,[13] in 1882, expresses himself as greatly in favor of a modified form of Malgaigne's hooks where the space between the hooks could be varied. He applies them about the fourth day and removes them in sixteen or seven-

teen days. He, in 1873, had a case in which the original separation was two inches and where after repair, it was impossible to detect which patella had been fractured. Treves,[14] in 1886, had the hooks made in two parts, introduced the points firmly into the bone through four small openings made in the skin by a tenotome, brought the segments together and screwed the fragments into close apposition. The hooks were allowed to remain *in situ* six weeks. The same author,[15] in 1892, exposes the fragments, clears away all intervening fibrous tissue and applies the hooks in the same manner. Levis modified them by dividing them into two independent pairs, so that the points could be inserted wherever desired.

The fixation of the points by suturing was proposed by Severino in the sixteenth century, and was first put into practice by Rhea Barton in 1834, and later by McClellan in 1838, (Dennis);[16] again by Cooper, of San Francisco, in 1861, and since, by Logan and Gunn, of Chicago, (Jalaguier)[17]. Of these five operations, two terminated fatally and of those that recovered nothing definitely is known. The operation was re-introduced by Cameron, of Glasgow, in 1877, who sutured the patella with wire in a case of ruptured ligamentous union. Lister,[18] in the fall of the same year, operated in a similar manner fourteen days after the accident. In 1879, Bell reported to the Medical Society of London, a case where he wired the fragments sixth months after fracture, and Rose two cases on the nineteenth day. This free opening of the knee joint and suturing of the fragments, generally known as Lister's operation, did not meet with general approval and surgeons looked for some less hazardous means of accomplishing the same end.

Kocker, in 1880, passed a silver wire vertically through the joint behind the fragments and twisted the ends over a piece of gauze in front of the bone, tightening it daily until the fragments came together. He only obtained diminished separation with fibrous union. Barker,[19] in 1892, made a similar operation subcutaneously and at the same time evacuated the blood from the joint.

He introduces a narrow bladed knife into the joint through the middle of the ligamentum patellæ, makes an incision downward for two-thirds of an inch, through which he expresses the fluid contents of the joint cavity (operating within twelve hours of the accident), introduces a needle fixed in a handle, passes it behind the patella upwards through the middle of the quadriceps extensor tendon and cuts down on it when it reaches the skin. The needle is protruded, threaded with silk and withdrawn, it is again introduced through the lower incision, passed in front of the fragments and out through the same incision above, threaded with the free end of the silk and withdrawn. In making the incisions care is taken that they extend down to the bone so that no fibrous tissue may intervene between the suture and the bone. The ends of the suture are drawn tight and at the same time, the fragments are forced into apposition and rubbed by lateral and anteroposterior movements against each other, until it is felt that any blood-clot or other material is dislodged. The suture is then tied on the lower border of the patella and the ends cut short and buried. An ice-bag is applied and the limb placed in a splint for eight or ten days, when it is removed and the patient is allowed to get up with a splint on, and to walk at the end of five weeks. He reports four cases treated thus, with bony union. Volkman passed a silk suture through the tendon of the quadriceps and the ligamentum patellæ and tied the ends in front of the joint, over a roll of gauze. Stimson[20] accomplishes the same thing subcutaneously. He makes four small incisions at the angles of the patella, introduces a Hagedorn needle threaded with silk, passes it subcutaneously through the ligamentum patellæ and brings it out at the corresponding incision on the other side. He then reintroduces it at the point of exit, passes it along the side of the patella and out through the opening above, and so on until the silk has surrounded the whole bone. The fragments are drawn together by tenacula inserted above and below, the suture pulled tight and tied and the incisions closed by catgut suture. By this method the joint is not invaded. He reports twenty-five successful cases. Mayo Robson passes steel pins through the tendon, approximates the fragments and retains them by a figure-of-8 suture round their projecting ends. Marshall, of University College, in 1878, transfixed the two fragments with steel rods and brought

them into contact by tying the ends of these rods together on either side, outside the skin. This procedure was brought forward by Lund, of Manchester, in 1882, and by Myles, in 1889. Ceni (Genoa) after preliminary aspirative irrigation of the joint, brings the fragments together by the figure-of-8 sutures of silver wire passed obliquely through the substance of the patella and round its upper and lower margins. Aiken proposes to pass a silver wire suture vertically through the boneand skin.

In the history of the following case will be described the operation by athrotomy and suturing. The majority of surgeons prefer the longitudinal incision; Phelps adopts the transverse; following the sulcus between the fragments. As to the time for operating in recent cases, it is better to wait until all danger of inflammatory symptoms from the trauma is past.

C. W., 22 years of age, on April 7th, 1891, sustained a transverse fracture of the right patella while endeavoring to prevent three horses hitched to a tread mill from running away. In doing this he states that he threw his right leg forward, braced himself on it, felt something give way in the knee, fell, then got up and walked about eight rods to a house. A physician was called, who found a transverse fracture below the middle of the bone. Cold water dressings were applied for ten days and then plaster-of-Paris fixation for six weeks; crutches used thereafter until the end of June, walking was attempted and on the third day re-fracture occured. The patient was admitted into the Milwaukee Hospital July 2nd, 1891. On examination there was found considerable effusion into the joint, discoloration of overlying soft tissues and separation of fragments about one inch. It was impossible to bring the fragments into apposition. A posterior splint was applied with moist antiseptic compresses over knee, for twelve days. By this time discoloration had completely gone and to a great extent the effusion into the joint.

On July 15th, 1891, under strict antiseptic precautions, the joint was opened by longitudinal incision in the middle line of the limb. On exposing the seat of fracture and separating the fragments, a quantity of bloody synovial fluid escaped from the joint cavity. Both fragments were freely movable and the interspace, one-half inches in the extended position, was occupied by a band of dense fibrous tissue which had given way close to the lower fragment. The fractured surface of the upper fragment was directed forward and that of the lower upward. There was laceration of the capsule laterally to the extent of one inch. There was no attempt at bony union. A small piece of sterilized gauze was placed under the fragments to guard against injury to and soiling of the joint cavity. Thin sections of bone with the attached ligamentous band were removed. Three holes extending down to but not perforating the articular cartilage, were drilled obliquely, at corresponding points in either fragment and sutures of silk-worm gut introduced. When these sutures were drawn tight the fragments were still half-an-inch apart. To overcome this, the limb was elevated to the perpendicular, i. e., flexed at right angles to the trunk and firm downward compression made on the extensor muscles. This brought the fragments into accurate coaptation. The silk-worm gut sutures were tied, ends cut short, aponeurotic coverings of the bones and capsules sutured with cat-gut, and the external incisions with silk. A copious antiseptic dressing was applied, the limb placed in a long posterior splint with a foot piece and over all a plaster-of-Paris dressing from toes to groin.

The further progress of the case was uneventful. The limb was maintained at right angles to the body for ten days and kept elevated for two weeks longer. The dressings were changed on the eighteenth day, when the incision was found united thoroughout and to all appearance commencing union between the fragments. The limb was kept in plaster-of-Paris for four weeks longer, all dressing discarded and the patient was allowed to walk with the aid of crutches. On Sept. 16th, he left the hospital with the patella firmly united; able to flex the knee to a right angle and to walk without the aid of a crutch. When last seen, one year after, the continuity any outline of the patella were normal and the functions of the limb completely restored.

For suturing material silver wire has been most generally employed—platinum wire and catgut have also been used. MacEwen recommends that the wire should be extracted after it has served its purpose; others leave it *in situ,* hammering the ends into the bone. Partia necrosis of the fragments have followed its

use, but the rule is that it causes no disturbance.

Chaput[22] reports successful cases by silk suturing of the fibro-periosteal covering of the bone. If continued success follows this method, and, unless it be the difference in degree of the trauma, there is no reason why it should not, as this proceeding suffices in cases where the patella is divided in re-section of the knee, a decided advance has been made in the treatment of this fracture. In old cases, to overcome the difficulty of approximating the fragments, various expedients have been resorted to. MacEwan[24] recommends a row of V-shaped incisions in the tendon of the quadriceps above the patella. This avoids complete section and gains considerable length.

Stankiewicz,[23] in a case of refracture after seventeen weeks, had to avoid the tendon of the quadriceps and ligamentum patellæ so as to suture the fragments, which united firmly with anchylosis and the patient walked well without assistance after three months.

R. Park[24] divided the tendon of the quadriceps in a case of long ligamentous union with good result. The danger of section of the quadriceps tendon is necrosis of the upper fragment. Von Bergmann[25] records such an occurrence. He chisels off obliquely the tuberosity of the tibia and fixes it below the knee joint.

The results obtained by mediate approximation are decidedly bad and unsatisfactory when compared with those following immediate fixation, and the question should all recent cases, and old ones entailing functional disability, be submitted to operative treatment, must be given an affirmative answer, except in very exceptional cases where the præ-patellar aponeurosis remains intact and unless contra-indicated by age and constitutional conditions. As to operation, that by arthrotomy and suture, either of bone or overlying tissue, should be adopted. Here the surgeon can determine the exact condition of the parts, evacuate the blood from the joint and absolutely satisfy himself as to the accurate coaptation of the fragments. Disastrous results have followed this operation, but they can all be traced to one cause, viz, sepsis. Pilchner,[26] in 1890, collected 132 cases operated on by the following surgeons: Phelps, 44 cases; Dennis, 30; Fluhrer, 16; Stephen Smith, 15; Lucas Championniere, 14, and MacEwan, 13. To these can be added 5 cases by Pilcher and 11 by R. Park,[24] in all 148 consecutive cases without any bad result. The same writer in summing up the situation at that time writes: "It is apparent, as we view this whole question dispassionately, that the justifiability of arthrotomy and suture of the patella after fracture, depends entirely upon the reliability and adequateness of the resources which surgeons possess to prevent septic infection of the wounds made. Now this cannot be a matter of theory; it is a matter of experience and practice; 148 cases in the hands of different surgeons, in which the knee joint is widely opened and the constituents of the joint freely handled for considerable periods of time, and all with immunity from septic infection, is sufficient demonstration that reliable and adequate precautions against harmful sepsis are possible to be obtained by sufficient care and knowledge. And, *per contra* the disastrous suppurations, entailing many times amputation and death, that have been reported from other observers, show the results that may follow imperfect antiseptic details and warn against the indiscriminate practice of the operation." This is equally true at the present day. All operative procedures, with the exception of Treves, modified use of Malgaigne's hooks, exclude the possibility of determining the condition of the præ-patellar aponeurosis and cannot guarantee the accurate coaptation of the fragments.

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CLINICAL LECTURES.

STRABISMUS, OLD DISLOCATION OF SHOULDER WITH INJURY OF BRACHIAL PLEXUS, PROLAPSUS RECTI.*

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This first case is one strabismus, a condition inwhich one or other rectus muscle is in a state of contraction or is naturally two short, and where the indication is to relieve the inequality by dividing the short tendon. You have seen tenotomies done scores of times for the relief of club foot and similar conditions. In such cases the operation is done subcutaneously and with aseptic precautions. Here, although the instruments used are aseptic, we cannot be sure of excluding bacteria from the wound and it is left open.

Most cases of cross-eye are due to hypermetropia. For distant vision the axes of the eyes are parallel, for near objects, they converge. The strain of focussing the eyes on near objects causes a spasm of the internal muscles and indirectly an actual shortening of one tendon or both.

After doing away with sensibility by means of a four per cent. solution of cocaine, the eye speculum is put in position. The little operation leaves a small raw surface, it is well therefore to use a boric acid collyrium for a few days, but these wounds about the eye seldom go wrong. The patient instinctively keeps the eyes clean during the process of healing and the tears are saline and to some extent antiseptic. If, therefore, the instruments are clean at the begining septic infection is unusual, and although the wound is an open one, it practically heals by first intention. For forty-eight hours after operation, cold applications are used to prevent too large an ecchymosis and outpouring of blood. After this the eyes are used moderately, for too long a rest would weaken the muscles. Even after twenty-four hours, the eyes might be used for a time and then rested while cold applications are used.

The next case is that of a man between fifty and sixty years of age. Five months ago he fell from a high straw stack and injured his shoulder. His arm was paralyzed, or at least useless, immediately after the accident. Some hours later a number of local physicians saw him, administered an anæsthetic and made some manipulation of the shoulder. From this meagre history, it is impossible to decide as to the exact nature of the injury and whether he is right or wrong in blaming his physician for the present uselessness of the arm. The shoulder is at present almost completely ankylosed. I can move the arm, but the scapula moves with it. The deltoid is atrophied and there is paralysis of most of the other muscles of the limb. He cannot move the fingers nor can he feel anything in the hand. The head of the bone is displaced downwards in subcoracoid dislocation. It is altogether probable that at the time of the accident, the head of the humerus was driven with crushing force against the circumflex nerve so that the symptoms of deltoid paralysis are the inevitable result of the injury. It is not quite so easy to dispose of the responsibility for the dislocation. It is evident from the account of manipulations under anæsthesia that a dislocation was diagnosed or at least suspected. It is possible that the capsule was so extensively lacerated that reduction of the dislocation was readily accomplished but that the head of the humerus slipped out of place again later, perhaps on account of carelessness of the patient.

The shoulder is at present utterly useless, it is tender and painful and there is complete loss of function. There remains only one indication for relief, namely to resect the head of the humerus and allow a new joint to form. It may be that the paralysis is perpetuated by the pressure of the bone on the brachial plexus. The patient is not too old to make a good recovery from the operation and there is practically no contra-indication. The only question is whether the nerves will recover their proper function after the removal of the head of the humerus. I have made no promises to the patient on this score. After the operation has been recovered from, we

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must begin with massage and the continued current passed through the nerves so as to thrill them with something like the original vital current, whatever that may be. We must also use the faradic current to stimulate and restore nutrition to the muscles. Hypodermic doses of strychnine, which is the best nerve stimulant, will also be used. But any or all of these means would probably be useless without the removal of the bone which now acts as a foreign body. I must remind you that the circumflex nerve which supplies the deltoid is notorious for the frequency with which it is injured in accidents to the shoulder joint. I have repeatedly known patients, lawyers and the laity in general to blame a doctor for this paralysis when he was entirely blameless.

Now that the patient is anæsthetised, I find that there is a little mobility of the shoulder joint which was not obtainable before. This, however, does not alter the indications for operation. The incision is ordinarily made along the bicipital groove, but here there is no object in trying to avoid the deltoid and I shall go through the remnant of that muscle. I have now come to the head of the humerus lying beneath the coracoid process and the chain saw is passed around the surgical neck of the bone. After sawing off the bone, there is little hemorrhage. The wound is closed with four catgut sutures, leaving a little space at each end for drainage. Iodoform is dusted on and the neighboring skin smeared with a sterilized ointment of resorcin and naphthalin. Over this the ordinary antiseptic dressing is applied.

The next patient is a decrepit woman of 75 who has had prolapse of the uterus for about 20 years. This, however, is not the condition for which she now seeks relief. A few days ago she fell down a short flight of stairs and hurt herself in some way—she does not know exactly how. Then she experienced pain in the rectum and the bowel protruded causing her great distress. She has had only one small stool in three days. Along with her prolapse of the uterus, I find that she has a complete rupture of the perineum which has undoubtedly predisposed to the prolapse of both viscera.

The most frequent cause of prolapse of the rectum, when there is no hemorrhoid or other anatomical alteration, is long continued constipation. Not only is the lower bowel stretched by the retained fæces but after a time the sphincter loses its tone and in some act of straining, the rectum is pushed out. Prolapse of a pile is quite a common occurence and one which may be mistaken for a prolapse of the bowel proper. In fact, whenever there are aggravated piles there is a tendency to true rectal prolapse in addition. Prolapse of the rectum is quite common in children and especially in little infants. It occurs during the straining of defecation and often goes back of itself or it is recognized by the parents or nurse and returned at once as it always should be. Sometimes it is necessary to give an anæsthetic in order to reposit the bowel. The red cuff of mucous membrane is easily distinguished from the surrounding skin. In old cases in which the bowel has remained outside, the mucous membrane becomes greyish and leathery and partakes of the character of skin.

The best drug for prolapse of the rectum is ergot, not given by the mouth but in suppository. For a little child, a gelatine coated pill of ergotin (ten to twenty centigrams) may be used as a suppository after each defecation. In a case of long standing, however, more radical measures are necessary. There are two ways of operating on such cases. If the bowel goes back easily and simply gives trouble by its tendency to fall out again, you may make ten or twenty linear cauterizations, parallel to the axis of the rectum. Each stripe made by the actual cautery leaves a linear ulcer and as the ulcers heal, there is cicatricial contraction sufficient to restore the rectum to its normal size. The connective tissue of the scars also furnishes an artificial rigidity such as the rectum naturally possesses but is lost in the prolapsed bowel. This case, however, is a different one from what I have described. The rectum has remained outside the body for several days, it can not be returned easily through the anus, in fact, it has become somewhat strangulated. The best way to treat this is to regard it as we would a protruding mass of hemorrhoids, that is as a foreign body to be removed. The cuff is split longitudinally and each half snipped off with scissors in sections, suturing as the excision progresses, so as to control hemorrhage. The operation is a simple one because the mass is entirely outside of the body.

COMMUNICATIONS.

GENERAL PARALYSIS OR PARALYTIC DEMENTIA.*

D. R. PELTON, M. D., † TOPEKA, KANSAS.

This disease offers to us a large field for study, for pioneer work, notwithstanding the disease has long been known.

There are, indeed, so many phases of nervous disturbance with mental derangment classified as dementia or general paralysis that it has been and is now a question by some authors if we have not classified several diseases as one.

Then again, the early symptoms are are so obscure that it is difficult to make a diagnosis sufficiently correct to give the patient the benefit of an early and intelligent treatment.

While heredity unquestionably furnishes a basis for its development, there are yet other factors equally as potent in their effect, viz: The rapid push of American trade, the arduous tasks and struggles for promotion in our present system of education as well as in immoral practices and dissipation.

The need of our profession of to-day is an early recognition of these cases which have a paretic tendency. This is not easily done, perhaps, in the field of general practice, for the classification of the various nervous derangements and their phenomena would be as laborious as the naming of the stars in the canopy of heaven. But enough can usually be seen to suspicion some mental or nervous derangement and justify the aid of a consultation, as you would call an oculist or gynecologist, and classify as early as possible the functional from structural diseases, the systemic from the local, and thus fix a basis from which to establish intelligent treatment.

Rather than weary with a long essay on the history of this disease, or with the anatomy, physiology and histology of the brain which you all have access to in medical works, I will simply report three cases out of the number which have come to me, and although the nervous phenomena were well-marked, the true nature of the trouble was not disclosed to their family physician and friends.

CASE 1. Mr. A., a contractor, aged 50, while on duty received an injury of the right leg from a fall, and for several weeks was obliged to walk with crutches. Suddenly paresis developed in the right arm. At the expiration of about three weeks (entirely discarding the crutches during the time) he came to me through the kindness of his physican for examination and treatment.

On investigating the case, I found incoordination in walking aside from lameness from fracture, a stiffness and unwieldiness of the muscles of both legs and dizziness. A nearly normal sensibility in the right arm and hand, but motor power greatly diminished. There was also, incontinence of urine, loss of sexual power and constipation from lack of peristalsis, (these latter troubles having come on gradually since a severe sickness about nine years ago) constantly soiling his bed and clothes, to which he seemed to pay little attention.

He had also deafness in the left ear both with and without contact, coming on simultaneously with the vesical trouble; he also complains of or describes formication of the left face, by leading him indirectly with questions.

I found, too, some vaso-motor disturbance, and a stolid mental state, but he was excitable and fault-finding at times, was troubled with insomnia, had hallucinations of sight and sound, saw persons walking around his bed, beautiful flowers on the wall; said they disturbed him, but said, also that he knew they were aberrations; that is, he was able to correct the hallucinations as he did also the illusions which he had.

These statements were not voluntary, but drawn out by conversation.

His speech was a little blurred, psychic word tract sluggish; patient admitted abrasion and sores on glans penis in early life, but they were said not to be of a syphilitic nature. Also admitted making

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liberal use of spiritous liquors, although not to the extent of drunkenness; his history dated back some nine years.

Case 2. Mr. S.; a farmer, aged 31; single; has ataxic speech and unsteadiness of gait and dizziness, which has come on slowly for the past three years; mental condition is sluggish and came on gradually for eight years past, at which time he was disappointed in marriage. His father died aged 50, of pneumonia; he has a brother similarly effected.

On examination I find knee reflexes good, no ankle clonus, sensation normal but slow, muscle sense impared somewhat, incoordinate locomotion, feet stand apart, he inclines toward left side, left shoulder droops. Some difficulty in standing with eyes closed, muscle strength good, uvula deviated to the left and left pillar of fauces droops and its sensory reflex is lost. Tongue protruded with difficulty. The pupil of the right eye larger than the left and less active to light. Memory poor, mind sluggish, despondent and abstracted, attention slow and of short duration. Bulbar trouble. Speech under effort explosive. He was treated for catarrh and afterwards sent to a specialist for nasopharyngeal tumor; none found, but paralysis of palatal muscles; referred to me for examination and treatment. April 9th, ecchymosed palate slough on pharynx and uvula from loss of inervation.

Case 3. Mrs. O., aged 52, wife of a financier. The history of her case gives a gradual change in her disposition which came on after a heavy financial loss, six years ago. Great emotional excitement, fits of crying and despondency, with vasomotor disturbance within the last three years, followed by hypochondriasis and suicidal suggestions. She has delusions of pending starvation and friends turned into enemies, is easily excited at times. is insomnolent. Has decreased in flesh from 200 pounds to 125 pounds. Has weakness in right leg with formication and hyperæsthesia, tactile sense about normal; had decided paresis in same leg ten months ago. Right leg above knee measures one inch less than left, and below knee one and one half inch less. The tongue on protruding deviates to the right. Reflex in left eye normal, but absent in right, pupil reflexes normal; at times quite talkative. Urine on examination diabetic and history seems to indicate its existence for several months.

This case also has some peculiarities; just how much the diabetic urine depends upon the nervous derangement and how much of the nervous derangement depends upon diabetic urine you may conjecture.

I have chosen these cases on account of their opposite characters.

As you will observe, the departure from health in the first case was in the sensory and lumbar cord-center and later affected the mental and voluntary motor powers. While in the second case and also in the third mental deterioration came first and was followed by paresis in its various forms.

There was a time before the decided mental and somatic changes took place in each case that the difficulty rested in the circulation and nutrition simply, but the question arises, what caused these changes in the vaso-motor and trophic centers?

In the one case it might have been excited by alcholic excess or from the sickness in former years.

In case No. 2, a hereditary tendency may have figured, as a brother seems to be following in the footsteps of this disorder, and yet some say heredity is nothing, or if it is, it must be transmitted by a microbe in the spermatic fluid through the germ or through the circulation by the mother.

In both the second and third cases perhaps the exciting cause was the taxation of the emotional centers, thus exciting vaso motor disturbance, resulting later in vacuolization of the spinal and ganglionic and cortical cells, ushering in the somatic phenomena described by some authors.

In cases of paralytic dementia, aside from those of traumatic origin, there are those of a functional nature which sets in action the prenatal tendency. In the primary stage there undoubtedly exists a simple functional and vaso motor disturbance. It may commence in various localities depending upon the excitant cause and having a tendency to assume a progressive course. The capillary vessels in the brain become dilated and leucocytes migrate into the perivascular space, the lymph channels become clogged with accumulation of lymph cells and they press into the inter-spaces. Now changes commence in the protoplasm, for metabolic actions are diminished from less trophic stimulus in the gray matter. The nuclear and cortical cells undergo a granular degeneration of their protoplasmic sub-

stance. The accumulated and enlarged lymph cells surround the cortical brain cells and feed like phagocytes upon the pratoplasm to the evacuolization of their cell body. Perphaps this brain will illustrate the case more fully."

I here present a brain of a man which has some of the characteristic of a paralytic dement. The dura was adherent to the vertex, the *temporo sphenoidal* and *frontal lobes*, and was torn in removing. A degenerative change has taken place from the previous changes of the cortical vessels, causing a porous appearance of the tissue. The vessels are enlarged and torturous. The patient died in a state of delirium and convulsions, succeeding a condition of mental deterioration which had progressed gradually for the past eight years.

Could we expect less in this condition than mental deterioration loss of functional activity and impaired sensibility when the brain and cord are thus affected.

This is but the commencing of a more lasting structural change upon which depends the multitude of paralyses and violent mental conditions that require commitment to state and private institutions for treatment, care and restraint.

Now, the neuroglial cells and leucocytes have undergone structural changes, also, elongating and contracting like connective tissue, multiplying the neuroglial structure and diminishing the myaline, making the condition known as sclerosis of the brain and cord.

To numerate all the changes would take a space I cannot demand. I have only spoken of some of the most prominent changes, that your attention may be called to the investigation of its morbid anatomy.

Now, what can we expect from treatment? Surely in the last stages we have little hope of bettering their condition. In the second stage we may possibly modify or postpone the fatal issue for a time, but in the *early* stage, before vacuolization of the cells has taken place, is when we must meet the demands for interference.

Again, a difficult problem rises before us. How shall we reach the case in its early history when naught but vaso-motor and functional changes can be found. It is only by eternal vigilance we are able to read the hand writing upon the wall, and who in the busy crowd of general practice is able to discern the small dark cloud which in time shall obscure intellectual vision or burst like a cyclone into a fit of maniacal furor compelling some measures of restraint of the unfortunate victim.

While this class of diseases is steadily crowding on in our rapidly developing civilization amid the struggle for supremacy and prosperity with its accompanying emotional tension, our profession is rushing away in search of the microbe or to climb the mount of glory in operative surgery while mental and physical decline is lying at our door unheeded.

To amputate useless members is well, to remove an offending tumor from the abdomen is grand, to excise a growth from the field of the brain with success is noble, but to be able to avert the necessity for the same is the greatest of all.

It is not a matter of new remedies in the treatment of these diseases, for the physician of to-day is loaded down with drugs. As the warrior of old was powerless in his coat of mail (when down could not rise to his feet and when up could hardly stand,) so we are encumbered with a mass of useless stuff which hinders our better use of medicine.

More study of the nature of disease and less attempt at speculative and heroic treatment without an understanding of its pathology would increase our success.

In fact, if our foresight was as good as our hindsight, we might save many a body from being a physical and mental wreck.

But, as hard as we may labor and as high as we may attain in our profession, the generations to come shall climb on and up the towering heights of science until *we* look like mere pygmies below. But we may glory in the fact of being the stepping stone to their success.

Japan's Jinriksha Runners.

Jinriksha runners in Japan are hardy fellows. There are not less than 30,000 of them in Tokio alone; and the trade seems a popular one all over the country. One man pulled a jinriksha for over 30 miles, and when asked if he were tired, said: "No, by the grace of God I am never tired," and went on cheerfully for another 10 miles.—*London Million.*

What is becoming in behavior is honorable, and what is honorable is becoming.

WHY ELECTRICITY SOMETIMES FAILS TO CONTROL UTERINE HEMORRHAGE.*

AUGUSTIN H. GOELET, M. D.†

In a former lecture I told you that one of the principle uses of the constant current was for the control of the uterine hemorrhage, and showed that this was obtained by electrolysis of the tissues in contact with the positive pole. I will reiterate that contact, not instantaneous, but more or less prolonged, is absolutely essential in the majority of instances to produce this result. That is to say, while moderate hemorrhage from the uterus may sometimes be controlled by the application of the ball electrode connected with the positive pole in the vagina, it is more often necessary for a bare metallic or carbon electrode to come into actual contact with the endometrium. The reason for this is obvious when you recall the fact that electrolysis is more pronounced at the location of the poles, i. e., where the electrode is in contact with the electrolyte. The action which brings about this result (the control of hemorrhage), is due to several things operating together; *first*, an electrical osmosis which takes place in the direction of the current from the positive to the negative pole, whereby depletion with paling and drying of the tissues in the vicinity of the positive pole is produced; *second*, the congestion or blood stasis of the uterine body or attached fibroid mass is relieved; *third*, the detachment of adhesions between contiguous peritoneal surfaces, which is one of the first results observed from the use of the current, allows the mass to rise in the pelvis and removes one of the causes of obstructed circulation; *fourth*, cauterization and destruction of the diseased endometrium resulting from the liberation of oxygen, chlorine, acids, etc., at the point of contact of the positive pole with the tissues produces eventually a dense, unyielding eschar which acts as a barrier against subsequent bleeding.

One of the most frequent causes of failure to control uterine hemorrhage with this agent is due to imperfect and insufficient contact of the electrode with the whole endometrium during the application. This may be due to a faulty method of application, or a condition of affairs may exist which will preclude the possibility of placing an electrode in contact with every portion of the endometrium, in which case failure is unavoidable. The platinum sound electrode which is constructed so as to expose any length of metallic surface desired, according to the length of the canal, that the whole canal from the external os to fundus may be exposed to the local action of the current, is necessarily limited in usefulness, because its diameter is so small that contact with the walls of the canal is only possible when the canal is narrow and not dilated. Therefore the attempt to control hemorrhage with this electrode where the cavity is dilated or where its diameter is abnormal will prove a failure. If the canal is tortuous or the calibre is almost obliterated by the projection of an interstitial fibroid into the cavity, or if a sharp angle is formed by the fundus being dragged down by the weight of a fibroid in the upper portion of the uterine wall, it will sometimes be impossible to introduce any kind of electrode the full length of the canal. It often happens that the portion beyond the constriction or obstruction is greatly dilated while that below is of moderate calibre, and if it was possible to introduce an ordinary electrode beyond, effective cauterization would not be possible because of imperfect contact with the walls.

When the cavity is too large to permit the platinum sound being used satisfactorily, the carbon electrodes, which are of different size, are employed and the cauterization is done in sections. A size is selected which will fit the calibre of the canal and it is passed to the fundus, where it is allowed to remain for five minutes while the current is turned on; then, without turning off the current, it is withdrawn a certain distance and another sec-

*A Lecture delivered at the West Side German Clinic in the course of Clinical Instruction in Gynecological Electro-Therapeutics.

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tion of the endometrium is submitted to the action. This is repeated until the canal of the cervix is reached, which should not be submitted to the caustic action of the current with the large carbon electrode as stenosis would surely follow. When the platinum sound is used, it is not so important to exclude the cervical canal, as the plug of cervical mucus acts as a protection and prevents extensive cauterization here. The introduction of the large carbon electrodes would, of course, remove this secretion. When an accessible constriction, such as narrowing of the cervical canal, prevents the introduction of a carbon electrode of sufficient size to fit a dilated cavity above, I dilate with a steel dilator.

I have been much surprised at the ignorance displayed by some physicians otherwise well informed, regarding the manner of the action of the current upon the surface to which it is applied to control bleeding, and this is another cause of failure, for which, however, the agent is not responsible. It, nevertheless, frequently operates against its more extended application in these conditions, as well as in others where it could be used with benefit if intelligently employed. For instance, a remarkably well informed gynecologist once said to me that he had no confidence in any of the statements concerning the value of electricity in gynecology because it had failed completely to control uterine hemorrhage in a case where he had conscientiously and faithfully tried it. I replied that his failure was probably the result of imperfect contact of the electrode with the endometrium and consequently ineffective cauterization of the whole surface.

"Oh! no," said he, "I am sure that I cauterized the whole surface because I was very particular to move the electrode freely about in the cavity so all parts would be touched by it."

"Did you," said I, "hold the electrode still in one place for five minutes and then move it to another and so until the whole surface had been included, or did you keep the electrode moving about?"

He replied, "I kept it moving all over the surface, of course, so as to be sure no spot was omitted,"

I had some little difficulty in convincing him that an intra-uterine electrode should not be used as a curette, and that it in no way resembled the actual cautery or stick of lunar caustic which takes effect as soon as it touches; but that, on the contrary, the cauterization was due to a chemical action, resulting from decomposition of the tissue elements, which could not occur to any great extent instantaneously, but required prolonged contact. To convince him I had to remind him that a red hot coal could be rolled about in the hand without injury if the motion was rapid. As this conversation took place within the last two years it appeared to me an unwarrantable unfamiliarity with a subject which has been so freely discussed in medical literature. Doubtless, many other failures have occurred in the same way, and many other physicians are deterred from using a valuable therapeutic agent, because errors of a similar nature have caused them to have no confidence in it.

Another casue of failure which in some instances may cause its abandoment, is the attempt to check hemorrhage while the bleeding is very active. This will nearly always fail, (though it is sometimes possible) because the blood flows away so rapidly around the electrode that the chemical action on the tissues is prevented. The action is expended upon the blood filling the cavity, which is constantly refilled as it becomes emptied, and the result of the decomposition is constantly being washed away. The most appropriate time for the application in the case of hemorrhagic fibroids it will be productive of the greatest benefits, is during the interval when there is no bleeding. However, if the applications are persevered with and are properly made they will, in the majority of cases, control an active hemorrhage, but success should not be expected from one or two or several applications at this time. It is here that I think Gautier's Cupric Electrolysis is particularly appropriate. It may be employed in the midst of an active bleeding with certainty, since the decomposition of the copper electrode by the action of the positive pole liberates an astringent salt, the oxy-chloride of copper, which produces coagulation. An additional reason for an immediate result lies in the fact that it is driven into the tissues by electrical osmosis, and the structures for some distance beneath the surface are stained by it. No harm results from the absorption of this salt, as Gautier showed

by experiments upon rabbits. This will be borne out by the observations you have been able to make upon the patients you have seen treated here by this method. You have seen it control hemorrhage when curetting the uterus and packing the vagina with cotton have failed, or when they have only controlled it temporarily. You will recall the patient Mrs K., who was here on the last clinic day. The hemorrhage which had recurred after the use of the curette and washing out of the cavity with a strong solution of iodine, you observed, was promptly and permanently controlled by cupric electrolysis. I suspect malignant disease in this case because the bleeding was so profuse and uncontrollable when the curette was used and because I found that the cervix had been amputated in some other institution about eight months since.

I make no objection to curettment. It has its uses and possesses many advantages. You have seen me make use of it when I thought it more appropriate than the other measures we usually employ here for the control of hemorrhage. The application of the current in these cases possesses this advantage over the curette, however, that it can be employed in office work and an anæsthetic is never required.

These remarks will prepare you for some of the failures you may expect and enable you to turn them into success in some instances. They may likewise enable you to correct some unfavorable criticism regarding the value of this agent.

TRICHINOSIS.

F. W. WILCOX, M. D., Minonk, Ill.

Jan. 9, 1893, I was called to see the wife of A. J., supposed to be suffering from some complication of the mumps. On inquiring into the history of the case, I found she had taken sick about Dec. 19th, with vomiting and diarrhœa, also some pain in her bowels; about the same time her face began to swell and she had headache and high fever, which lasted about one week; after that she was able to be up and do her own work, but still felt bad until Jan. 5th, when she complained of being sore all over and having some headache.

Jan. 9th, when I first saw her I found her temperature 101°; pulse 120, slight cough; no expectoration; breathing short and quick, as if it hurt her to take a long breath; she was lying flat on her back with her limbs extended, arms crossed on her body, jaws set so that she could not open her mouth; said she could not swallow anything but milk and water; felt sore all over, every muscle in her body seemed to hurt her if she moved; pressure on any part of her body or any set of muscles would give her intense pain; face slightly swollen, some œdema of lower extremities; no appetite; bowels constipated, but slept well.

On further questioning, I discovered that on or about Dec. 12, J. had bought some hogs from his brother-in-law, J. R.; these he killed and made sausage of; his wife ate some of the raw sausage at the time, but says that it was only a small amount, and was for the purpose of finding whether it had enough seasoning in it.

I did not make a diagnosis on that visit, but took a portion of the sausage home with me, also a piece from each ham and made a careful microscopical examination of it. I was able to find trichinæ in large numbers in it. I then sent some of the pork to Dr. Melvin, Gov. inspector at Chicago, and he cornfimed my diagnosis.

My attention was then called to one of their children, a boy about two years old, who they said had been sick some time before with diarrhœa and vomiting, then took cold.

On examination I found the boy thin and emaciated, no appetite, a cough, dullness over the lower part of the left lung and with some coarse mucous râles over the other lung. He was cross and whinned most of the time; would cry if touched; his face was somewhat bloated; lower limbs pitted on pressure; had no appetite;

bowels constipated; temperature normal; pulse 110; slept poorly.

J. said that before his wife took sick he had a sick spell, which lasted about one week; he was taken with vomiting and diarrhœa and he felt like he had rheumatism all over; had no cough and a good appetite after he got over the first sick spell.

At my first visit I noticed his face was bloated and that he talked hoarse; he said he felt tired and had some headache, but was able to be around and look after his stock and do some light work. He was a hard drinker and was more or less under the influence of liquor all of the time.

He at first claimed that it was not trichina and would not give any information concerning himself.

Two days later I made my next visit and found the woman much better, with less pain, could open her mouth about one half inch, could move her arms slightly, but had not slept well the night before; had taken milk freely but could not swallow solid food; cough about the same; temperature 101°; pulse 110; bowels had moved from the effects of a dose of senna-tea; she still lay on her back and could not move without its hurting her. The boy was about the same in all respects.

J. said there was a man at the next house who wanted to see me; before going to see him I made inquiry and found that J. had given him some of the sausage. When I called to see him he said he had eaten some of the sausage but it had been cooked in a skillet; but the people with whom he lived said he had eaten some of it raw. He had no vomiting or diarrhœa at any time, only a slight headache and thought it only a cold. His face and whole body was slightly swollen; could not sleep well nights; sweat most of the time, and large drops of perspiration formed on his forehead and nose while I was there. He felt better in the morning and worse at night; said he could not breathe well at night and his feet swelled more then; had a bad cough which sounded hoarse and brassy; no pain in the lungs but some mucous râles over both of them; sore in all muscles, painful to move and would sit in a chair by the fire all the time complaining he would be too cold if he moved away from it; his temperature was normal; pulse 90; bowels constipated; appetite poor.

My next visit was Jan. 15th. The woman had not slept well since I last saw her; sweat all of the time; had pains in her breasts; coughed continuously; had a profuse white expectoration; had difficulty in breathing and felt all the time as if she would choke, and her throat pained her very much. I was unable to make a thorough examination of her throat as her mouth could be forced open but a little; her throat looked red but not swollen.

The soreness in the muscles seemed better, except in the right leg, which pained her more than it had at any time; could use her hands better, but at times would have cramps in her fingers which lasted only a short time; pressure over the joints hurt her as much as pressure on the muscles. The tongue was slightly coated; temperature 103°; pulse 150; respiration 35; bowels had not moved from the oil given the day before; she lay on her back; appetite poor.

The next day she seemed about the same excepting the choking sensation in the throat which made her breath hard, somewhat like a child with the croup; she coughed continuously and frequently expectorated large quantities of mucus.

About eight o'clock she went to sleep and slept two hours, then awoke with a hard fit of coughing and had much difficulty in breathing, but felt easier after a time; then called all her friends around her and said she was going to die; soon she fell into a restless sleep and awoke in about an hour; had a hard fit of coughing and then died. She was not delirious any of the time she was sick.

Jan. 19th. The boy's temperature was 100°; pulse 110; had slept but still had sweats; would sit on the floor and once in a while would play with the other children; drank milk freely and ate some potato; cough was less and dullness over his lung was not so marked; slight pressure on muscles would not produce pain; lower limbs still swollen; diarrhœa lasted but one day.

The neighbor, J. A., was not so sore in his muscles; had been able to walk to the front of the house, but said it made him very tired. His cough was about the same as at my last visit; had mucous râles over the lungs; his bowels moved every other day; appetite was somewhat better; rested well all night; his clothing was wet with perspiration when he awoke in the

morning; temperature normal; pulse 90; limbs still pitted on pressure.

Jan. 22d. I was called to see K. E., a sister of J's. wife; she claimed all the time her sister was not suffering from trichinosis, and to prove it to her friends ate a piece of raw sausage in their presence the day before her sister died. At the time of my first visit she complained of a headache, vomiting and diarrhœa; temperature 102½°; pulse 120; face swollen, especially around the eyes; had no cough; no œdema of extremities; no pain in the muscles, but a poor appetite.

Jan. 24th. The girl, K., has slept well since my last visit; temperature 100°; pulse 90; had no headache; face still swollen, but not so much as before; perspired about the mouth and nose; lower limbs pitted on very slight pressure; her bowels had moved about three times that day.

Her brother E. had eaten some of the sausage on the 14th, but had been well until the 26th, when he was suddenly taken sick while at work with diarrhœa and became so weak he could not continue his work; he did not vomit at any time but felt an inclination to do so all the time. When I next saw him he still had the diarrhœa and his face was still swollen and puffed about the eyes; his brother said his face had been swollen for several days; temperature 99½°; pulse 100; no appetite; no cough; no pain in limbs and slept well at night.

Jan. 31st. E. felt much worse; face, neck and arms swollen; hands would pit on pressure; hurt his neck to move his head; temperature 103°; pulse 110; tongue coated; back and headache; complained of being cold all of the time, although he had on a heavy coat all the time and was sitting near the fire; his bowels had not moved for 24 hours although he had taken a tablespoon full of Epsom salts the night before; had not vomited but felt like it all of the time; made more urine than usual but of a very high red color; in fact all of them were troubled in the same way except the child who made very little for about a week.

The child's temperature was normal; pulse 90; eats well; sleeps as if in good health; no œdema, but still has pain from pressure on the limbs; his bowels move once a day.

K's temperature 99½°; pulse 90; eats and sleeps well; perspires some about the face and is somewhat troubled with night sweats; says she feels much better and was able to be moved to a neighbor's house.

Feb. 4th. K. feeling much better; temperature 99°; pulse 85; appetite good; sleeps well; some œdema of the face and limbs; able to do some light work but perspires freely at night.

E's temperature 101°; pulse 100; appetite better; and sleeps more; still complains of being cold and wears an overcoat about the house; bowels costive; face still swollen but not as much as it had been; a slight hacking cough and night sweats. Little boy's temperature normal; eats more and sleeps better; no cough; some diarrhœa; at times œdema of the limbs; looks thin and pale.

A's temperature normal; appetite and sleep improved; no cough; slight œdema of the extremities; night sweats but none during the day.

Feb. 10th. K's temperature 99°; pulse 85; eats and sleeps well; bowels costive; no cough; limbs pitted on pressure; is able to do house work; no soreness of the muscles but tires very easily.

E's temperature 99½°; pulse 90; sleeps very well, perspires most of the time; slight cough; feels a little stiff in the muscles and short of breath if exercises, but is able to be out of doors on pleasant days; bowels costive.

Little boy still improving, with occasional diarrhœa.

J. A's temperature normal; eats and sleeps well; no cough; no soreness of muscles; no sweats, except when exercising, and is able to go to town five miles distance.

February 16th. All came to my office, a distance of nine miles. Temperature normal. To all appearances they all looked well except E. and K., whose face pitted on pressure; appetite good; did slight work out of doors most of the day.

From that time they came to the office every five days. The œdema decreased and appetite and strength improved so that by March 1st. the men were all able to do hard farm work and to all appearances were well.

The treatment I used was 5 gr. of calomel every morning and a tablespoonful of Epsom salts at night for three days, which kept the bowels moving about three

times a day. After that I gave Hall sol. of strychnine and pepsin, so they would get $\frac{1}{20}$ gr. of strychnine with 10 gr. pepsin. If they coughed any 1 gave them a mixture of carb. ammonia and paregoric. For the first two weeks all took liberal doses of whiskey and wine, after that drank it about three times a day. At first the diet consisted of milk and eggs, and as they improved they were allowed to eat whatever they liked.

The hogs were of the Poland China breed; were raised on a farm in a large pasture; they were fed on corn; no house slop ever being used; in the pasture was a corn crib and a cow shed which at one time was infested with rats. The two that were killed were picked out as the fattest and best meat hogs on the place; they were about 18 months old.

SOCIETY REPORTS.

THE CLINICAL SOCIETY OF LOUISVILLE.

Stated Meeting, May 2nd, 1893.

THE PRESIDENT, DR. I. N. BLOOM, in the Chair.

MENINGOCELE—OPERATION.

DR. W. O. ROBERTS: I have here a child six months old whom I saw for the first time last week. I was called to remove what was thought to be a sebaceous tumor of the scalp. Upon examining it closely I was pretty certain it was a meningocele, and the aspirator confirmed the diagnosis—the fluid drawn off was as clear as spring water and measured six drachms. The tumor is located just back of the posterior fontanelle.

This is the third case of meningocele that has come under my observation. The first was a patient of Dr. Cottell's; the meningocele was situated at the union of the two halves of the frontal bone. Union had taken place in the bone and the meningocele was shut off from the interior of the cranium. The tumor has split open, and dissected and the child got well without any trouble.

The next case was a child four weeks old that had a meningocele as large as a hen's egg at the posterior portion of the skull, between the two halves of the occipital bone. When the child cried the tumor became quite tense; I advised its removal. The patient was brought to me by Dr. Milner, from Breckinridge County (Ky.) I made an elliptical incision over it and dissected the tumor out thoroughly, then transfixed its neck with a double thread and removed it. There was an opening between the bones fully one-quarter to one-half inch in width. I expected of course that this operation would be followed by a recurrence of the growth or by hydrocephalus, as is frequently the case, but I am glad to say the child made a good recovery. It has been a little over three years since the operation was performed, and the doctor writes me that the child is as sensible as most children of that age.

DISCUSSION.

DR. I. N. BLOOM: I would like to ask Dr. Roberts what he expects to do with the case presented to-night.

DR. W. O. ROBERTS: I shall aspirate it for a while but if it continues to refill I will remove the sac. I would like to know if any of the gentlemen present have ever operated upon a meningocele.

DR. I. N. BLOOM: I have read of cases being operated upon abroad even where there was a portion of the brain protruding, with very good results.

MEASLES AND SCARLET FEVER.

DR. P. GUNTERMAN: There is quite an endemic of measles and scarlet fever in my neighborhood. About twelve weeks ago I was called to see a child nine months old which had been sick two or three days; I found it with distinct scarlet rash and with all the evidences of scarlet fever. I treated it for such and in the course of five or six days it was doing very nicely.

On my visit the next day, I found the child extremely ill, and broken out with rubeola thickly and thoroughly; this went through its regular course and in the course of ten or twelve days the patient seemed to be getting well; about two or three days after that it showed some evidences of fever again and became thoroughly anasarcous, which to my mind indicates that the child had scarlet fever to begin with. I believe this is the first case of scarlet fever I have ever seen followed so directly by measles. Since then I have treated a family, and am treating them now, five children, one of them has had scarlet fever and had measles when a baby, so I am told by the mother. The oldest, a girl about ten years of age was taken ill with vomiting, headache, etc. and the second day broke out with a scarlet rash. She went through the regular course without an untoward symptom and in ten days was quite convalescent. Then the next a girl of eight years was taken ill with vomiting, purging, quite a high fever, and on the second day had quite a distinct scarlet rash. On the fifth day after breaking out with scarlet fever, she developed a distinct case of measles. The other two children, girl five and boy two years of age, had all the symptoms of scarlet fever with distinct rash, followed in four or five days by the eruption of measles. This makes six cases of the kind I have seen, and I wish to know whether it is a common thing. With me it is certainly very unusual. I might also say that the oldest girl who did not develop measles had this disease when a baby.

DISCUSSION.

Dr. J. W. Irwin: I do not know that I have ever seen anything of the kind in my experience. I simply want to make one statement, that I have never had a death from measles in my practice. I have seen a great many cases, some very severe ones, followed by the usual complications, but in every instance recovery has resulted.

Dr. Wm. Bailey: It is not a very common occurrence, and yet it is very evident by these cases that two specific causes may be operating at the same time. Evidently the poisons were introduced very nearly at the same time, as is shown very clearly by the day on which the eruption took place in the cases referred to by Dr. Gunterman. However, the children would have had fever nearly the whole time anyhow from measles, as measles come out the fourth or fifth day. I believe the average is the fourth day for the eruption from measles, and the second day for the rash of scarlet fever. The first case spoken of shows clearly that it was a case of scarlet fever, as we do not have anasarca so frequently following measles as we do scarlet fever. It is true that we have at the beginning of some of the eruptive diseases an eruption that simulates scarlet fever, but the history of this case shows that it was a case of genuine scarlet fever. Then in the second family, Dr. Gunterman reports a case of scarlet fever which was not accompanied by measles, because protected by a previous attack, which I think goes to show that the others were clearly scarlet fever and measles combined and we know that one of these does not protect us against the other. Sometimes one eruptive disease seems to be held in check by the prevalence of another, in which the first runs through its course and somewhat delays the second. The cases are very interesting to me; I did not know that scarlet fever was prevalent to any extent in the city. I haye seen a good many cases of measles, particularly in certain localities.

Dr. Irwin has been very fortunate not to have had a death from measles or any of its complications. I saw a great many deaths from catarrhal pneumonia during measles during the war.

Dr. W. O. Roberts: I would like to make continued report of a case. At the last meeting of this society I reported a case upon which I had performed an epicystotomy for the removal of two pieces of catheter from the bladder. The gentleman went home soon afterward, and I now learn that the wound has entirely healed and he is passing urine the natural way.

SARCOMA—OPERATION.

Dr. A. M. Vance: Two months ago a lady was brought to me from New Hope, Ky., forty-six years of age, who had a tumor just back of the right ear of twenty years growth. The tumor had never been the source of any trouble until two weeks before she came to Louisville, when she suffered some intermittent pain, with con-

siderable increase in size of growth. Upon examination I took it to be an ordinary sebaceous cyst, having taken on fermentative action, and thought its removal would be very simple. I injected some cocaine and made an incision; as soon as I reached the body of the tumor I recognized my mistake from the immense vascularity of the growth, and the fact that it was semi-solid in nature. I immediately put the patient under chloroform and removed the growth; found that it was sub-periosteal, the skull over an area as large as a silver dollar had melted away, the base of the tumor being composed of loose fragments of bone which seemed to have become adherent to the growth, not resembling skull at all but patches of bone. I cleaned it out as thoroughly as I could, the operation being accompanied by terrific hemorrhage, packed the cavity and left it packed with iodoform gauze; then removed it and allowed the wound to contract together and heal up. At the operation I thought the growth was probably sarcomatous in character, which the microscope has proven it to be. At the end of six weeks she returned, the growth had recurred and was double its former size. I attempted a second removal with better preparations than before, and succeeded in getting away the tumor so far as the external part of it was concerned on a plane with the skull. I found the opening in the skull was considerably larger than at the former operation, and the hemorrhage was very much greater; it was absolutely uncontrollable, and the woman came very near dying from the shock, or from chloroform and shock combined with hemorrhage, while on the table. I packed the wound to stop the hemorrhage, packing removed at the end of forty-eight hours the same as was done at the former operation. I only removed part of the growth because the patient became so completely exsanguinated before completing the operation that it would have been impossible to proceed farther. I removed all that portion of the growth which was extra-cranial, but, as part of it was intra-cranial, I did not think further operation justifiable, especially considering the extreme condition of the patient at the time.

DISCUSSION.

DR. I. N. BLOOM: Had Dr. Vance known the exact condition which he would have encountered when the patient first came to him, I would like to ask if he would have operated?

DR. A. M. VANCE: Yes I think I would; there was really nothing else to do.

DR. W. O. ROBERTS: I think this must have been either a fibroma or enchondroma originally which became converted into a sarcoma. I have only seen one case of sarcoma affecting the bone of the skull. That was in a negro man twenty-six years of age. The growth occurred on the side of the skull involving the parietal bone. I removed it and removed a portion of the parietal bone much larger than a silver dollar. In this case (the same as in the one mentioned by Dr. Vance) the hemorrhage was excessive. This patient left the city some time after the operation and I never heard of him again.

TUMOR OF MESENTERY.

DR. ROBERTS (continued): I would like to report one case: About three months ago a man came to me suffering intense pain in the abdomen; I could detect no growth until about six weeks ago, then I detected a movable growth a little above the umbilicus and to the left of the median line. I suggested to him the advisability of a laparotomy, hoping that the growth was located in the great omentum, and that I would be able to remove it. After several days he consented to the operation; meantime he had been confined to his bed and had wasted considerably. I operated at Norton Infirmary. Made a very free opening, and found the growth as large as a goose egg and situated in the mesentery. I decided not to attempt its removal and closed the abdominal wound. He recovered from the effects of the operation without an untoward symptom and since then has steadily improved in general condition. He was in the office day before yesterday and looked like a new man. He says he suffers no pain whatever in the tumor, and it seems to me the growth is reduced to at least one-half its original size.

DISCUSSION.

DR. W. H. WATHEN: Were there any adhesions, and what was the character of the growth?

DR. W. O. ROBERTS: I took it to be a malignant growth, the patient had com-

plained of pain for about eight months. There was no history of syphilis, nor of tubercular disease.

Dr. W. H. Wathen: We cannot say what will be the final result of this case because no one can form an opinion so accurate as to the character of this growth as Dr. Roberts who had an opportunity of examining it; but there is a peculiarity about various conditions in the abdomen, particularly about troubles of the liver, gall duct, and the gall bladder, where operations are performed for troubles that have caused a great deal of suffering, loss of flesh, etc., and where compartively nothing was done except possibly the separation of a few adhesions, but the patient improved very rapidly for a time. I cannot explain the growth Dr. Roberts describes in any other way than to consider it malignant, and while the patient has improved, I am inclined to the opinion that after a while there will probably be a recurrence of the old symptoms, then continued progress of the disease, and the man will die of malignant trouble. The case is one of great interest, and I hope Dr. Roberts will watch the future progress of it and report results at a subsequent meeting.

Dr. A. M. Vance: I would like to ask Dr. Roberts why he did not remove the growth?

Dr. Roberts: There was a large tumor in the mesentery and very vascular, and I was afraid of too much hemorrhage.

CHRONIC DIARRHŒA; INSOMNIA; ATTEMPTED RELIEF BY HYPNOTISM; ERYTHEMA NODOSUM.

Dr. J. W. Irwin: The first case to which I wish to call your attention is not unique in any way, but one the general practitioner is often brought in contact with and one that serves to show what a long continued drain on the system may give rise to. About a year ago, I was called to see a lady suffering from chronic diarrhœa; she gave the history of having had the disease for five years previously. Her abdomen was immensely swollen and tympanitic from the presence of gas, and every particle of food that she took passed through the bowels fermented, causing great distress. There was a great deal of rumbling in the bowels and her general health was very feeble. There was no perceptible tenderness anywhere and no tumors and no undue enlargement of any of the internal organs. The character of the discharges was as we always see in these chronic cases, light brown in color, showing the absence of bile. The discharges were examined, but did not respond to the test for bile. This patient, after a great deal of care and perseverance, was relieved from the diarrhœa, but her general health did not improve afterward. She remained in a delicate condition and had loss of appetite amounting to general anorexia for quite a while after the diarrhœa had ceased to trouble her.

I was called again to see this patient about two months ago; she had then been for some time under the care of one of those unique physicians known as a "Hypnotizer." She gave an excuse for not having called on my services sooner as some one had persuaded her that the hypnotizer was just the man for her case. She had been suffering from insomnia, and the physician undertook to put her to sleep by means of hypnotism. Of course I was curious to know the methods he employed, and learned about the following from her husband: The hypnotizer began by saying "Madam you cannot go to sleep and I have given you everything I know of to make you sleep; I know of but one more thing that can be used and that is hypnotism, the doctors are practicing it for various conditions in Germany with most satisfactory results, and I wish in this case to practice it upon you." "You go to bed," she did so and the doctor admonished the husband that he must not come into the room. The hypnotizer placed two chairs near the side of the bed, one at the head, the other near the foot, and he sat down upon one and put his feet upon the other, after first removing his coat and shoes. He then told the patient to watch him and not to take her eyes away until she fell asleep. She said that she watched him and watched him until she was tired and blind, but could not go to sleep. She believed that one very disturbing element was the close proximity of his feet to her face. After persevering in this treatment for an hour the doctor gave it up and informed her husband that he could not hypnotize her.

This same patient was taken about a month ago with pain in the ankles, knees

and hip joints of a rheumatic character, but there was no swelling about the joints. There was at first a little fever, the extremities were unduly hot to the touch and exceedingly sensitive, so much so that a blanket caused a great deal of pain over her limbs. A week or so later, spots appeared on her ankles, legs and thighs; they were four or five inches apart, some of them as large as a half dollar of a reddish purple color in the center, very slightly elevated above the skin, indurated in the center but not around the margin. No fluctuation could be detected and no suppuration seemed to be present in any of these spots. Two of the spots coalesced and by some means this spot became chafed and ulceration followed. Now the spot has become enlarged to about the size of the palm of the hand and it is studded over with granulations which bleed upon slightest pressure and which are exceedingly painful. The spots on the other leg, and some of them on the same leg, are disappearing, but this spot of ulceration does not seem to heal nor does it seem to enlarge; it remains in a sluggish condition. The treatment of this patient has been in the line of tonics and stimulants, but she has not improved in health; pain is still present in the limbs; the spots remain out for five or six days, disappear and then reappear. The disease answers the description of acute erythema nodosum but does not seem to yield to treatment.

FATAL CASE OF TYPHOID FEVER.

The next case I wish to speak of is one in which we are all interested, a case of typhoid fever. Four weeks ago I was called to see a gentleman in this city suffering from a very violent attack of gastric colic, the pain seeming to be confined to his stomach. He was doubled up on a couch trying to vomit but could not eject anything. He had taken some food that day and for a few days before had neither vomited nor purged. I relieved him with hypodermatic injections of morphine. Some fever followed the temperature running up to 103° F., which lasted two or three days; and from that time on it was continuous but did not go above 102° F. for a week. The temperature fell in the morning to 109° F. and in the evening to 101½° F.; a few days later it fell to 97½° F. to 100° F. for ten days. There was no pain anywhere, no headache, no aching in any part of the body, no chilly sensations and nothing to apprehend the approach of trouble. The patient had, on the seventh day after he was taken with this violent attack of colic, the peculiar eruption characteristic of typhoid fever on his breast and upper part of the abdomen; a few spots appeared, lasting four or five days. There was very mild diarrhœa, he had from two to three movements of the bowels daily, although he was fed on milk and peptonoids yet digestion seemed to be very defective. One particular feature of this case attracted my attention, and that is why I report the case. From the very onset of the disease the patient had a dry tongue, so exceedingly dry that he could not articulate until his tongue had been soaked in water and softened. The tongue had become very much swollen. He had not taken any calomel before I saw him and I gave him none afterward. The tongue was swollen and was fully three fourths of an inch in thickness, cracked and furrowed, mouth and throat dry, no secretion in the buccal cavity at all, pulse did not exceed, after the first three days, 85 to the minute. This condition lasted until the twenty-second day of the disease. On the morning of the twenty-second he was slightly delirious, talked a little incoherently; he had been sleeping regularly and sufficiently. On the afternoon of the twenty-second day, at four o'clock, he seemed to be considerably revived, his languid condition of the morning seemed to have passed away. I saw him again at eight o'clock in the evening, and his temperature had gone up to 103° F. I gave this patient stimulants by the stomach from the end of the first week and they seemed to have no more effect upon him than so much water: That is to say, there was no increase in the strength of the heart's action. I gave him 6, 8 or 10 ounces of whiskey daily. At eight o'clock that evening he was quite tympanitic, but up to that time there had been no tympanites, abdomen perfectly flat, very little tenderness under pressure and that only in one spot near the right iliac fossa. On this occasion (at eight o'clock) he was in an unconscious condition. Whiskey was given by the mouth and by the bowel, atropia, nitro glycerine, and digatalis injected hypodermically and no effect from

any of the drugs could be observed. He died at 2 A. M.

This case illustrates to me a class of cases of which I saw several, some years ago, when the disease was prevalent in Evansville, Ind., in which I thought the infection was traceable to a barge of corn that had sunk in the river. Upon that occasion I saw a great many cases of dry tongue, but none so striking and none that seemed to be so persistent as this one. In the case reported, there were no evidences of perforation of the bowel further than the tympanites; had this man had hemorrhages or pain in the bowels I might have thought perforation had taken place. This case is the first one I have ever seen where the free use of stimulants appeared to have no effect upon the heart's action so long before the fatal issue occurred. There are two other cases of the disease in the same house now, one has been sick for five days, the other nine days. Dr. Bailey saw the first patient referred to shortly before death occurred; the question of milk supply was considered and Dr. Bailey suggested that a certain dairyman had been selling milk to people who took the disease, that a great many cases in other families were attributed to this cause, they were taking milk from the same dairyman. The hygenic surroundings in this case were good, and it is very hard to say how infection occurred.

DISCUSSION.

DR. I. N. BLOOM: In regard to the first case reported by Dr. Irwin: From the description given, I should consider the case one of purpura. Purpuric spots vary in size from a small petechia up to almost any size. It looks very much like purpura rheumatica gangrænosa. It is well known that purpura rheumatica or purpura hemorrhagica will often go on to gangrænosa; in fact the sharp distinction between purpura hemorrhagica and milder scorbutus cannot be made. From the history of the case, description of the exanthem, its obstinate tendency etc. would be against erythema nodosum as this disease rarely ulcerates, and is a trouble of comparatively a few days standing. It is peculiar in its lumpiness, lumps varying in size and very decidedly elevated. It is never of the color described by Dr. Irwin; as a rule it varies from a fairly dark red to very light red spots, usually painful. From the general description given I should consider it a case of purpura; certainly the only forms of erythema that would suggest themselves would be erythema multiforma and erythema nodosum, except that the spots would be depressed in the center rather than elevated.

THE LOUISVILLE MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting May 26th, 1893.

THE PRESIDENT, DR. F. C. SIMPSON, in the Chair.

TRAUMATIC ANEURISM.

DR. TURNER ANDERSON: This young man about two years ago was handling a bar of iron when a piece was detached and penetrated his thigh. He was seen soon afterward by his physician; was little inconvenienced at the time, but soon noticed that there was a tumor on the inner side at about the middle third of the thigh which has continued to enlarge. It is plainly a case of traumatic aneurism.

DISCUSSION.

DR. A. M. CARTILAGE: It is certainly a very pretty illustration of traumatic aneurism. I would like to say that I think the best treatment for this condition is direct dissection, after tying above and below the point. I had occasion, some months ago, to see a very large traumatic aneurism in this locality, perhaps a little lower, developing fourteen years after a shot wound with a 22 caliber bullet. It was an enormous aneurism occuring in the practice of Dr. Chenoweth who operated upon it, making a direct dissection

The patient was a negro woman; she made an uninterrupted recovery and is perfectly well to-day.

DR. W. L. RODMAN: I fully agree with what Dr. Cartledge says. It is evidently a circumscribed traumatic aneurism, and the treatment he suggests is the only treatment to be thought of.

DR. A. M VANCE: I agree perfectly with what the two gentlemen have said.

DR. F. C. WILSON: The diagnosis in this case is a very easy one. The thrill is very distinct, the expansive impulse plainly felt, and the bruit can be very readily heard. There is no question as to the vessel involved (the femoral) and no doubt the treatment suggested by the surgeons is the one to be adoped. Of course, the case naturally falls into the hands of the surgeon after the diagnosis has been made by the attending physician.

DR. E. R. PALMER: The aneurism is splendidly located for collateral circulation, and I think the operation ought not to lay the man up for more than a few days. Collateral circulation would be established without any trouble whatever.

DR. W. L. RODMAN: I would say, in answer to Dr. Palmer's question, that the plan of digital compression was very largely followed at one time with excellent results in many cases. This treatment, however, is more particularly applicable to idiopathic rather than traumatic aneurism. Then you have compression by means of different instruments, Reid's method or compression by Esmarch's bandage for instance, which is probably the best of all. In the traumatic variety I think the open treatment, dissecting out the aneurismal sac, is undoubtedly the best.

CHOLECYSTOTOMY—RECOVERY.

DR. A. M. CARTLEDGE: These specimens I removed twelve days ago to-day from a patient thirty-four years of age, female. Six weeks ago the patient, a robust healthy subject, never having suffered from anything, was taken with what was supposed to be a case of ordinary colic. Her physician was summoned and, after an examination, he concluded that it was a case of indigestion and gave her a hypodermic injection of morphia which relieved her. The following day was spent in comparative comfort, the patient going about attending to her household duties. On the following night there was a return of the pain which she referred particularly to the epigastric region; the trouble was supposed to be with the stomach, and some common place remedies, catartics, etc. were administered, but without any special relief. In four or five days, however, her physician noticed a small tumor situated a little to the right of the stomach in the region of the gall bladder, concluded that the trouble was in the gall bladder itself, and was due to obstruction of the cystic duct. There was slight jaundice. The tumor, when first noticed, was very small, and continued to enlarge gradually. She had several attacks of pain and, some two weeks afterward, the pain passed away but the tumor remained enlarging all the time. I saw the patient about this time and agreed with the physician that it was a case of distended gall bladder owing to obstruction of the cystic duct.

Twelve days ago she was subjected to an exploratory incision; the gall bladder was found very tense; there were some slight adhesions of a very friable character to the surrounding structures which we easily separated by the fingers; the gall bladder was opened and contents found to be mucus (not bile) and in the cystic duct were found the specimens I present. There were twenty-three calculi in all, five large and eighteen small ones. They were carefully removed and the gall bladder stitched to the abdominal wall and peritoneum, excluding skin. In the case of cholecystotomy which I reported to this society some months ago, I stitched the gall-bladder, carrying the sutures through the skin, muscular coat, and pareital peritoneum. This case did uninterruptedly well, but at the same time there was some little drawing sensation which I thought could be easily avoided by leaving the skin out of the deep sutures. The subsequent course of the case reported to-night was without an accident; there was no pain, no elevation of temperature and not a drop of pus. The wound has closed with the exception of a very small fistula and the patient is up and went down to dinner to-day, (twelfth day after the operation). What I wanted to call special attention to was the manner of stitching the gall-bladder, not carrying the stitches beneath the skin. I think this method is of great advantage,

because when the stitches are carried through the skin it usually gives rise to stitch abscess and pain.

Drs. Vance, Chenoweth, and Scott assisted in the operation.

DISCUSSION.

DR. A. M. VANCE: I saw the patient referred to in consultation with Drs. Cartledge and Scott, and feel that Dr. Cartledge ought to be congratulated upon the rapid and excellent result obtained. I think the question in these cases in the mind of the surgeon is whether he has removed all the calculi or not. I feel sure that they were all gotten out in this case, though for three or four days there was no discharge of bile. I think this is occasioned by the fact that there is infiltration about the duct or irritation due to a certain amount of injury, done in the effort to remove the stone from the duct, which causes obstruction temporarily. Even if bile does not flow for four or five days it is no evidence that the obstruction has not been relieved.

The case reported is certainly an illustration of the good that may be done by cholecystotomy.

THE INFLUENCE OF CHLOROFORM UPON THE COURSE OF NORMAL LABOR, AS SHOWN BY THE TACHADYNEMOMETER.

Donhoff (*Archiv. fur Gynakologie*,) administered chloroform in various degrees to five cases of normal labor, and noticed its influence upon the expulsive force of the uterus and abdominal muscles, as shown by a carefully constructed physiological apparatus. The conclusions reached are in substance the following:

1. The administration of chloroform, even in diminutive doses, exercises a retarding influence upon the progress of labor. The muscular pressure sinks to one-half of the amount of that present before the administration of the anæsthetic. In eight observations the average figures were 1837.

2. The expulsive force of the uterine contractions steadily diminishes during the exhibition of chloroform.

3. The labor pains, besides being weaker, are also more irregular during slight anæsthesia. During deep anæsthesia the intervals between the pains are longer and all the pains are diminished in strength.

4. The pains increase immediately after discontinuing the anæsthetic. The expulsive force of the contractions after stopping the chloroform, compared with the force just before its administration, is, as expressed in figures, 2–3.

5. The labor pains generally continue diminished in power for some time after discontinuing the chloroform. In one case they had resumed their normal intensity in ten minutes, while in two other cases two hours had expired.

6. If the action of the abdominal muscles is only slight, this action is checked entirely by a superficial anæsthesia, but soon reappears after the stopping of the chloroform.

7. The action of the abdominal muscles continues, but in diminished force, during superficial anæsthesia, if before the exhibition of the chloroform it was vigorous in character.

8. Deep anæsthesia abolishes entirely the action of the voluntary muscles.

9. The intervals between the pains become longer immediately after chloroform is administered, and the labor pains, besides being less intense, decrease in numbers about twenty-five per cent.

These carefully conducted experiments show that chloroform, no matter in what degree it is administered, exercises a retarding influence upon the progress of labor. The expulsive forces are lessened and there is no corresponding diminution of the resistance.—*Abstract.*

"LONGINGS" OF PREGNANT WOMEN.—From a study of over three hundred cases. Giles, of London Obstetrical Society, divides the healthy "longings" of pregnancy into three classes: those due to desire for something to check the sense of nausea, those which express the physiological desire for certain kinds of food, and those due in many cases to an auto-suggestion prompted by popular belief. The frequency of longing decreases as the number of conceptions increases.

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SATURDAY, AUGUST 12TH, 1893.

EDITORIAL.

TRICHINOSIS AND MEAT INSPECTION.

Elsewhere in this issue appears the clinical history of five cases of trichinosis as recounted by Dr. Wilcox. It is the same old story: The mother eats some raw sausage to see if it is properly seasoned; the family eats the sausage but half cooked; several are taken ill; one dies; the physician diagnoses trichinosis; to prove the doctor wrong a relative, with more confidence than wisdom, eats of the sausage and proves the doctor right. The whole picture is another demonstration of the necessity for careful attention to food and food-stuffs, with the emphasis placed upon animal foods.

All meats should be inspected carefully and conscientiously before being used for food. Moreover meats, and especially pork, must be thoroughly cooked before eating; thorough cooking, meaning the application of heat to such degree and for such length of time, as will insure the destruction of living organisms.

Some foreign countries having learned that trichinosis is spread by means of pork, will not allow that article to be placed upon the market until it has passed satisfactorily a thorough examination by the microscope. Americans were rather surprised when the American hog was excluded from these markets, and, as it was a question affecting the pocket, forthwith instituted a government inspection of pork and intrusted the work to the Bureau of Animal Industry of the Federal Agricultural Department. This bureau to prove the practicability of government inspection has, since about two years, examined all pork exported, and with the astounding discovery that while only about 1 pro 1000 of European hogs are infected by Trichinæ, *two per cent. of American hogs are infested by this parasite.*

The bureau inspect pork for home consumption as well as that for export. Not at all! It has not money sufficient so to do. The department is dependent upon Congress for means to carry on its work, and it would seem that, inasmuch as American citizens only are infested and

no advantages are to be gained politically by inspection of pork for home consumption, our busy legislators cannot see their way clear to divert from other channels any monies for this purpose.

Ex-secretary Rusk was severely criticized for expending public funds for pork inspections, and his successor has announced himself opposed to the entire system of meat inspection. It would be pusillanimous to condemn Secretary Rusk's action in this matter or to raise a great cry that the general public has been taxed to pay for the protection of aliens. Undoubtedly it would be wrong to use for a long series of years public funds for such purpose. Probably ex-Secretary Rusk, and as well Dr. Salmon, Chief of the Bureau, would agree with Secretary Morton that the expense of the meat inspection should be borne by the exporters. But, as foreign governments would not accept certificates of inspection from exporting houses, it was wise and prudent in the Agricultural Department to take up the matter and demonstrate that pork officially inspected would be admitted to foreign markets. This has been done and it is a just and righteous attitude now taken by Secretary Morton, that exporting firms should bear the expense of the inspection.

But why should not pork for home consumption likewise be inspected officially? If to protect the lives of Germans, Austrians, Frenchmen or Italians, their governments found it necessary to close the market to uninspected American pork, why should not Americans be granted the same amount of protection? Why should they not be protected against "measley" pork as well as tuberculous beef. This country seems far behind European nations so far as concerns the inspection and regulation of food products.

Medicine is becoming the science of the prevention of disease rather than the art of curing it, and to further this end medical scientists must join with scientists in other lines, and insist upon the inspection of all food meats at the time of slaughtering for the market. Food inspection, to be effective in this country, must be enforced by the Federal Government and be performed by competent scientific men, unbiased and undeterred by any political considerations whatsoever. That this would be difficult under the existing system is unfortunately illustrated by the present administration, in that the Secretary of Agriculture seems to be out of sympathy with the purposes for which the Department was established. He avows his belief that it is not within the functions of Government to carry on scientific investigations, and that it might be a good idea to close up the Department.

Varicose Ulcers.

Dr. Reboul (*La Semaine Médicale*), treats various ulcers by cleansing, antisepsis and occulsion of the ulcer. He first applies gauze moistened with Van Swieten's solution, or a solution of the biniodide or cyanide of mercury, and covered with oiled silk. After four or five days of this treatment he finds the surface of the ulcer sufficiently modified and covered with granulations to proceed to the use of dry antiseptics. The ulcer is then filled with powdered salol or iodoform and over this salolized or iodoformized gauze is placed, then oiled silk and a tarlatan bandage, reaching from the ankle to the knee. This dressing is not changed for fifteen to twenty days, when the ulcer is found to have healed over completely. If not a second, or possibly a third dressing may be requisite to complete the treatment. In cases where the infection is so ancient that mercurial solutions are insufficient to clean the ulcer, camphorated salol or camphorated naphthol may be necessary. He fills the cavity with gauze imbibed with these drugs and applies then an occlusive dressing.

THERE are two thousand female physicians in the United States, seventy in London, thirty-five in Paris, five in Edinburgh, two in Dublin, and one in Algiers.

BACTERIOLOGICAL NOTES.

Anthrax Bacilli in the Mud at the Bottom of a Well.

A very interesting and no less important communication has appeared (*Ann. de l'Inst. Pasteur*, March 1893), from the pen of Diatroptoff, on the discovery of anthrax bicilli in the bottom of a well. An epizootic of anthrax occured near Odessa on land where numerous flocks of sheep were pastured. The sheep which perished were buried and the live ones removed from the place. The sheds and pens were thoroughly disinfected and the sheep returned. Again certain of them were attacked with anthrax. A new change and further disinfection was followed by a third outbreak. The proprietor then observed that only the sheep which received water from a certain well (which had been abandoned in domestic use on account of the brackish taste of the water) were affected. The well was filled up and the disease ceased to appear. A bacteriological examination of the water in the well revealed the presence of no anthrax bacilli in either culture or inoculations. The author examined soil from the pen but with negative results. He then examined the mud in the bottom of the well where he found the anthrax bacilli. They were obtained in pure culture by inoculating rabbits and mice with the mud. They died in a short time and from their organs pure cultures were obtained.

The Dangers in Antiseptic Midwifery.

Schräder (*Centralblatt f. Gynäk*, No. 16, 1893) has called attention to the exceptions in the success of antiseptic obstetrical practice and endeavors to explain the cause, why the practice is not universally successful. He holds that the poison of puerperal endometritis is often actually diffused throughout the body by intra-uterine irrigations, thus causing a local and probably a harmless morbid condition to become the agent of deadly infection, the veins and lymphatics acting as the diffusers. The stimulation of the uterine muscular tissue by the injections increases the lymphatic absorption. Although vaginal injections are much safer, he believes that they frequently cause a general infection. The fact that a streptococcus has been found to be normally present in the vaginal secretions after labor by Doderlin is considered of importance. Schräder strongly condemns the use of caustics in puerperal ulcers. The reason for the rapid healing of a lacerated perineum when it is repaired immediately after labor is that the parts are allowed to rest. Glöckner's statistics are not favorable to prophylactic irrigation.

Diseases Probably Caused by Flies.

Surgeon General Sir Walter Moore (*British Medical Journal* 1893, p. 1154) calls attention to the danger of flies conveying disease germs. In a previous article he has brought out this point with reference to Asiatic cholera, but in this article he includes several other diseases such as Enteric fever, phthisis, anthrax and leprosy. This is especially important in places where no special care is exercised in the disinfection of excreta or of soiled clothing. Flies seize every opportunity to investigate all kinds of filth. They are constantly alighting upon all sores on faces, hands etc. whether healthy or affected with contagious diseases. That flies in the East cause "Peenash," or maggots in the nose both of man and animals, is not doubted. The occurrence of isolated cases of cholera and enteric fever and ophthalmia, he thinks may be explained by the conveyance of the germs of these diseases by flies. He suggests the importance of protection against these insects. [The suggestions are exceedingly good and when we consider the habits of flies and the opportunities which they have of taking up bacteria either in their food or on their feet and bringing them to some human food suitable to their development, there is much to support the "fly theory" and arguments against these troublesome insects.—ED.]

ALUMINUM is to be used in the construction of artificial limbs, a use to which it seems to be particularly well-adapted, owing to its great strength and lightness.

ABSTRACTS.

PERINEPHRIC ABCESS—ENDING WITH PERINEAL LITHOTOMY.

H. I. JONES, M. D., L. R. C. P. E., Etc.

Perineal lithotomy is about the only operation in the whole range of surgery which is performed, as it were, in the dark.

In August, 1891, Sammy Jones, aged two years, was brought to my office, suffering from a swelling of the left lumbar region. On examination, his outward appearance led me to suppose that I had to deal with a case of hip-joint disease. In due time the swelling in the lumbar region became soft, I made a free incision which gave vent to a copious flow of laudable pus, the cavity was washed out with an antiseptic fluid, and a drainage tube inserted. Pus flowed out of the wound for about two months, when it stopped discharging, at which time the little fellow began complaining of pain in the region of the scrotum, telling his mother that a flea was biting him. At the same time she noticed that a good deal of pus was flowing per urethram accompanied by some stones which she could triturate between her fingers—no doubt phosphatic concretions. By this time all the hip-joint symptoms and gait had disappeared. Analysis of the urine showed renal casts, albumen and pus; no doubt the abscess had found its way into the bladder per left ureter. I believe that fifty per cent of the cases reported as cases of hip disease, and cured without lameness or deformity, never have been cases of hip disease at all, but cases of perityphlitis, perinephritis, periarthritis, and various neuroses of the hip and surroundings, all of which are insignificant as compared with true hip disease, which is chronic and slowly progressive.

The little fellow passed out of my hands owing to the long distance to bring him to my office. The next time I saw the little patient was October 27, 1882, when the mother brought him to my office, stating that he suffered excruciating pain during and after micturition. Suspecting a stone as being the cause of his trouble, under the influence of chloroform administered by my friend Dr. O. V. Thayer, I sounded the bladder and detected a large stone.

December 9th, assisted Dr. O. V. Thayer, I preformed the latral lithotomy and removed two calculi, which I now have the pleasure of exhibiting to you. When I first introduced my finger into the bladder, I felt a large ovoid shaped stone, and attached to it, as a tail to a kite, by a tenacious mucus, was the small stone. With some difficulty, after enlarging the wound, I extracted the foreign material, the bladder was irrigated with antiseptic fluid, but no drainage tube was inserted as I find children do better without one. On the fourth day urine passed per urethram; on the 10th day I noticed that all urine passed per urethram, and on the 14th day wound of operation was perfectly healed. He made a good recovery without any special symptom.

The points of special interest are the lumbar abscess, long duration of the case, and rapid repair of surgical wound. The question is this: Was the abscess due to pyelonephritis; was the nucleus of this stone the cause of the perinephric abscess? Pyelonephritis, nephritis, and renal colic, are preceded by nephritic colic, but owing to the age of the patient we could only get the objective symptoms, the abscess passing pus per urethram, etc. As above stated no doubt the abscess emptied itself per ureter into the bladder. The significance of acute lumbar abscesses depends upon the causation and the locality from which they take their origin. The majority of lumbar abscesses are caused by purulent affection of the kidney, or its pelvis, as for instance, renal calculus or pyelitis, but in a large number of cases no affection of the kidneys, or their adnex, can be recognized. Some injury of one or the other must be assumed as the cause. The presence of pus in the urine indicated pyelitis. Was it due to the nucleus of this stone now exhibited, or was the abscess primary in the tissue surrounding the kidney, and due to some injury?

Before closing, if I may be permitted, I will give a rapid anatomical sketch of the

region in which these abscesses are developed, and the relation of the kidney to neighboring organs. As you are all aware, the kidneys are situated on each side of the vertebral column and surrounded by a large quantity of cellulo-adipose tissue. The fatty capsule of the kidney has relations posteriorly with the pillars of the diaphragm, and with the deep folds of the transverse aponeurosis; it also has relations anteriorly with the ascending or descending colon. The fatty capsule is continuous with layers of cellular tissue, which are continuous with the cellular tissue of all organs of the perinephric region. But the continuity most important to note is that which exists between the perinephric cellular tissue of the iliac fossa. The iliac aponeurosis is usually found only in the two upper thirds of the iliac fossa by loose cellular tissue, which is rarely continuous with fibrous tissue. From the disposition of parts it results that the pus surrounding the kidneys will find its way equally easily into the cellular tissue, which forms the immediate covering of the psoas muscle, or into the sub-peritoneal or sub-aponeurotic cellular tissue. This continuity of the cellular tissue of the perinephric region with that of the iliac fossa is the anatomical explanation of the facility with which perinephric abscesses follow the iliac and crural vessels, open into the triangle of scarpa or at the trochanter minor, following the psoas muscle to its lower insertion. Perinephric adipose tissue is continuous with the cellular tissue of the lumbar region beyond the quadratus lumborum between the margin of the latissinus dorsi and external oblique muscle. This continuity of the cellular tissue shows us the course taken by the pus in cases of perinephric abscess, when it is poured out into the sub-cutaneous cellular tissue of the lumbar region to be localized, as in the case before us. So this relation of the perinephic cellular tissue to the iliac fossa, true pelvis, colon, diaphragm, and psoas muscle, will enable us to understand the peregrination of these abscesses.—*Pacific Med. Journal.*

OVARIAN TUMOR WEIGHING ONE HUNDRED AND ELEVEN POUNDS REMOVED FROM A CHILD OF FIFTEEN, WHOSE WEIGHT WAS SIXTY-EIGHT POUNDS.

W. W. KEEN, M. D.

Miss B., of Benezette, Pa., was first seen by me at Driftwood, Pa., February 26, 1892, at the request of Dr. V. K. Corbett, of Caledonia. She was then fourteen years of age and had never menstruated. About eighteen months before I saw her, her abdomen began to enlarge. Six months afterward Dr. Corbett was consulted for an attack of considerable pain in the left side of the abdomen. He found that she was only voiding eight ounces of urine in the twenty-four hours, but under proper treatment this soon reached a quart in amount, and has remained so ever since. He never discovered any albumin in the urine. In October, 1891, she had been tapped by a gynecologist, who is said to have diagnosticated a solid and probably malignant tumor, connected most likely with the liver, omentum, and ovary, and who deemed its removal not feasible.

I found the abdomen enormously distended with fluid and advised very strongly that a small incision should be made in the abdominal wall, so that I could determine the relations of the growth with accuracy. Her father, however, was not present, and had made it a condition that nothing beyond tapping should be done. I tapped her immediately and removed considerably over three gallons of amber-colored fluid. When this was evacuated I discovered a lobulated tumor on the right side of the abdomen, under the liver and apparently attached to it. It was evidently cystic in part, there being at least two cysts perceptible. Each of these I tapped, obtaining from the opper one a light fluid and from the lower one a much darker fluid. On account of her age no vaginal examination was made. The fluids pointed strongly toward an ovarian cystoma. I again advised an exploratory incisino.

April 29, 1890. The patient was finally brought to the Jefferson College Hospital. She had been tapped twice since February, 1892, the last time in February, 1893, when six and a half gallons were drawn off. She is now enormously swollen. The measurements are as follows: From the ensiform to the umbilicus, 16½ inches; from the ensiform to the pubes, 29½ inches (this measurement in myself reaches from the ensiform to the middle of the calf of my leg); circumference, 49 inches. The veins over the abdomen are very large. Nothing can be made out in the interior in consequence of the enormous abdominal distention. Examination of the urine shows no albumin and a very slight trace of sugar (?)

Operation.—April 30, 1893. A small incision was made in the median line above the umbilicus, as the greater mass of the tumor lay there. A large trocar was thrust in and evacuated a very large quantity of characteristic opalescent ovarian fluid. The escape of this fluid revealed through the abdominal wall large masses lying especially under the liver and in the right iliac fossa. After this evacuation I enlarged the incision until it measured eventually about eight inches in length, and found an enormous ovarian cyst, reaching up to the diaphragm and pushing everything out of its way. There were a number of moderate adhesions, chiefly to the belly wall and the omentum. The viscera were fortunately entirely free. The pedicle was only 2½ inches broad. The tumor arose in the right ovary, the left ovary being healthy but small.

The weight of the solid mass removed was twenty-seven pounds, and by actual weighing the fluid removed weighed eighty-four pounds, making a total of one hundred and eleven pounds. The child herself weighed but sixty-eight pounds.

After the removal of the tumor I never saw so curious a looking abdominal cavity. It looked almost like that of an eviscerated cadaver in the dissecting-room. The tumor had so pushed the liver to the right and backward, and the stomach to the left that nearly the whole of the diaphragm was exposed, and flapped up and down with the pulsations of the heart. Down the middle of the cavity the bodies of the vertebra were entirely exposed, and showing the aorta and vena cava to their bifurcations, the intestines being a very minor consideration and pushed to each side in the hollow of the ribs and the lumbar region. When the abdominal wall was sutured the abdomen was excessively scaphoid, the anterior abdominal wall lying directly on the aorta and vertebræ. The puckering of the skin, although moderately marked, was much less than I had expected.

When the operation was completed a glass drainage-tube was inserted, and she was put to bed in very fair condition, in view of the gravity of the operation. The tumor was a multilocular cyst.

May 18, 1893. The child has made an uninterrupted recovery. The drainage tube was removed on the fifth day, when the discharge had become almost nothing, but three days later a slight rise in temperature took place, and the discharge recommenced. A small rubber drainage tube was therefore reinserted for a few days. She sat up at the end of two weeks, and will go home as soon as the slight discharge from the drainage opening ceases.

Remarks.—I have not had time to search through the literature of ovariotomy, but so far as my memory serves I have never known a larger tumor removed from a child. It weighed just one and a half times as much as the patient. Her recovery has been most satisfactory in spite of a very poor and capricious appetite. The chief lesson the case teaches is the value of an exploratory incision in every case of doubt. Had this been done, instead of mere tapping, in October, 1891, when the tumor was much smaller, the prognosis would have been much more favorable, and she would have been spared a year and a half of needless suffering. What seemed to be a most formidable operation really proved to be almost a simple one, the adhesions and the pedicle being most favorable for the speedy recovery which has ensued.—*Nashville Jour. Medicine and Surgery.*

BRILLANTINE is a preparation for the hair, for which the *Bullet. de Lyon* gives the following three formulas:

1. Castor oil 6, castile soap 2, benzoin 2, alcohol 200 gm., attar of roses or of neroil sufficient,

2. Glycerine 10, alcohol 100, rose water 100 gm.

3. Castor oil 6, glycerine 6, benzoin 2, alcohol 200 gm. perfume.

THE PRESENT POSITION OF THE SURGERY OF THE PROSTATE.

Dr. J. William White, read a paper on this subject before the American Surgical Association. In regard to the nature of the prostatic enlargement it was held that the prostate gland was a part of the sexual apparatus and not chiefly an accessory organ of micturition, and that the growth or growths which make up the enlargement are analogous to the fibro-myomata so frequently found in the uterus.

The changes in the bladder are due to the mechanical obstruction, the circulatory disturbance produced by pressure on the prostatic veins and to septic infection.

The symptoms of prostatic enlargement were discussed at length. In regard to treatment, purely expectant treatment is proper only where the enlargement has produced no symptoms and catheterization is easy and shows no residual urine. Ergot is the only drug that offers any prospect of usefulness, but it is far from demonstrated that it has any distinct effect. Palliative treatment consisting in the systematic use of steel sounds for dilatation and the employment of the catheter is of great value in a large number of cases.

The following operative methods discussed:

1. Overstretching of the prostatic urethra. This is not likely to be followed by good results in cases where the median lobe and the vesical neck are chiefly involved. In lateral hypertrophy where the urethra is simply narrowed it may be of use.

2. Perineal prostatotomy should be regarded as that of choice in cases in which with marked diminution of the expulsive force, and with cystitis there are evidences of widespread degenerative disease or of distinct renal disease, toxemia and general feebleness.

3. Perineal prostatectomy, where the growth can be reached by the finger and is of small size or pedunculated; perineal prostatotomy can always be converted into a prostatectomy.

4. Suprapubic prostatectomy is the operation to be preferred in those cases in which palliative treatment having failed there are unmistakable indications that the local conditions are worse, the general health remaining unaffected.

In conclusion, the speaker said that some time ago the thought occurred to him that possibly if the analogy between uterine fibro-myomata and prostatic growth was a real one, castration might have the same effect upon the latter that oophorectomy does upon the former. At this time he had not read of the alleged prostatic hypertrophy in eunuchs, geldings, etc. He instituted a serise of experiments on dogs to determine the effect of castration on the size of the prostate. It was found that the average weight of the prostate in dogs was 35.3 grams. The dogs were killed at varying intervals after the operation, the longest period being seventy-two days, and in all there was a marked diminution in the weight from 2.5 grams to 5.5 grams according to the weight of the animal and the period at which it was killed.

The author did not wish to be understood as advocating the measures which these studies would indicate. He simply presented the subject as a line of thought which had occupied his mind at odd times in order to have the criticism of the Association. As regards the employment of castration as a therapeutic measure in prostatic hypertrophy, the final answer must be left with the patient. If the time comes when we can promise equivalent results to those obtained by oophorectomy in uterine fibroids, there will probably be no lack of cases willing to submit to the operation.

Alopecia Circumscripta.

Dr. L. Duncan Bulkley writes, in the Journal of the American Medical Association, that in the parasitic form he employs:—

℞

Hydrarg. bichloride	gr.j
Lanolin	ʒj.
Terebene	mj.

Sig.—Apply twice daily.

Strychnine for Snake Bite.

E. A. Thomas, M. D., Assistant Surgeon, Nagino, India, reports, in the *Indian Medical Record*, five consecutive cases of bites by poisonous snakes, in which prompt recovery ensued upon the administration of staychnine, in full doses, repeated hourly until out of danger, which was usually determined after the third dose.

PTOMAINE POISONING.

Dr. J. C. Gilbertson, of Luverne, Minn., writes upon this subject in the R. I. *Medical Science Monthly* as follows: Many of the common ailments or diseases that the human race is heir to are now universally conceded to be caused by living organisms. Bacteria or microbes have been wandering about upon the face of this earth for nearly 6,000 years, seeking whom they may devour. So deadly and so appalling has at times been their work that humanity has time and again cried to heaven for deliverance. Yet so successfully have these germs labored in disguise that it is only in the latter part of this ninteenth century that they have at all been discovered. The scientist and microscopist, the chemist and bacteriologist of the last ten or twenty years have somewhat succeeded in piercing the curtain and viewing a few of the hitherto unknown actors.

Bacteria are the lowest forms of vegetable life. They are minute, unicellular in structure, and multiply by division and the formation of spores. They split up complex substances into simple elements through the process of putrefaction. Most bacteria are harmless, but some after gaining admission to the body are capable of producing disease and are known as pathogenic.

Recognizing the fact that germs do bear a causal relation to some disease, the question arises, how do these organisms produce disease? Several theories have been advanced:

1. The germs deprive the blood of oxygen.

2. The bacilli accumulate and form mechanical obstructions in the vital organs.

3. The bacilli consume the proteids of the body.

All of these theories have been shown to be defective and none are at the present satisfactory. Hence a fourth and generally accepted theory:

4. Bacteria during their growth elaborate a chemical poison, which is soluble, and which when introduced into the circulation produces fever and the characteristic symptoms. This chemical poison is known as a ptomaine. We will then define a ptomaine as a product of bacterial decomposition. Vaughan gives an explanatory definition and defines a ptomaine as "a chemical compound which is basic in character and which is formed by the action of bacteria on organic matter."

A large number of the ptomaines are inert, others highly poisonous. We will consider the latter only.

This bacterial decomposition may take place in or outside the body. We will therefore, consider ptomaine poisoning in relation to the body from external and internal causes.

1. External causes. Whenever bacteria have under favorable conditions attacked matter outside of the body, and by decomposition have elaborated their characteristic poison, and this again has gained admission to the body, generally through the alimentary tract in food or drink. Under this head is poisoning from ham, sausage, oysters, mussles, milk cream, cheese, etc. We will not discuss each in detail. The ptomaine gaining admission is already in a soluble state, is quickly absorbed, and symptoms usually develop early. There is much similarity in symptoms and they may be grouped under the following divisions:

1. A true gastro-intestinal irritation, in which we have vomiting, purging, cold, clamy skin, anxious countenance and much depression.

2. Purely nervous, sensation of heat, itching, nettle-rash eruptions, swelling, asthmatic breathing, etc.

3. A kind of intoxication, in which we find dizziness, muscular weakness, muscular spasm, paralysis, coma and death.

Treatment—Preventive and symptomatic.

2. Internal causes.

Most of the infectious diseases, suppuration, purperal fever, etc., are conceded and many proven to be due to pathogenic bacteria. We will consider a few:

Diphtheria.—Says Vaughan: "That the Loffler bacillus is the cause of diphtheria no one can now deny. The fact that this germ, although found only at the seat of innoculation causes marked systematic disturbances, indicates that its action must be due to its soluble products."

The bacillus gaining admission to the body and finding lodgment in its favorite location about the tonsils, in the pharynx, larynx or nares, acts as a local irritant producing an exudative inflammation. In so doing it first induces death of the cells with which it comes into contact, particularly the superficial epithelium and the leucocytes. The further action of this necrosed tissue and of the bacilli results in the elaboration of a ptomaine which is soluble, becomes absorbed into the circulation and produces the marked systemic infection. From this point of view we consider diphtheria as primarily a local disease, and the constitutional disturbances as due to poisoning by the ptomaine of the diphtheritic bacillus.

Typhoid fever. Most of the bacteriologists and the profession at large believe that the bacillus of Eberth is the specific cause of typhoid fever. To this belief Vaughan and a few others take exception. At present, however, I am willing to recognize Eberth's bacillus as a cause of typhoid fever. This bacillus, if it succeeds in passing the stomach without being destroyed by the gastric juice, seems to have a special affinity for Peyer's patches of the small intestines. Here it acts as a local irritant, causing hyperemia, death of cells and necrosis, and in so doing elaborates its characteristic poison, by some termed the "typhotoxine," which is largely responsible for the marked constitutional symptoms.

Tetanus.—The bacillus of tetanus is primarily a native of the soil, but is frequently found on rusty nails, fork tines, splinters, etc. The bacillæ, I believe, have never been found in the blood or tissues beyond the point of introduction. Their action is entirely local. Here they multiply and eloborate their ptomaines, which have a special action on the spinal cord and spinal centers.

To bring to a close, I am inclined to the following deductions:

1. Pathogenic bacteria cause disease by the elaboration of ptomaines.

2. The primary action of pathogenic bacteria is local and the constitutional disturbance is brought about by the absorption and action of ptomaines.

How, then, are we to meet and counteract these conditions? Bacteria, being living organisms, are made inert or destroyed by antiseptics and germicides. Ptomaines, being chemical productions, remain uninfluenced thereby.

Our first effort then becomes to destroy the bacilli, and as far as possible to prevent the elaboration of ptomaines. This is best accomplished by early, thorough and continuous local antiseptic treatment.

Our second effort is to counteract the depression and marked constitutional disturbance caused by the absorption of the chemical productions. This is best accomplished by supportives, stimulants and remedies to counteract the prominent symptoms as they arise.

Pruritus.

Dr. Colombini praises the following formulæ:

℞ Menthol..... 10 parts.
Ol. amygd. dulc.....100 parts.—M.

℞ Zinc. Oxid.,
Amyli pulv..... āā 50 parts.
Menthol..... 1 to 6 parts.
Paraffin. mollis.....100 parts.
M. Sig.—Pasta.

℞ Zinc. oxid.,
Bismuth subnitr.....āā 10 parts.
Menthol..... 1 to 3 parts.
Amyli pulv..... 30 parts.—M.

—*British Journ. Dermatology.*

Burns.

The following useful combinations are given by Saalfeld:

℞ Tannic acid..... ʒss.
Sp. vini rect..... f ʒi¼.
Collodion..... f ʒv.
Tr. benzoin..... f ʒss.
M. Paint upon the surface.

℞ Alum ..... ʒj.
Yelk of egg (boiled)..... no. j.
Glycerin ..... f ʒss.
M.

Or—

℞ Alum
Borax..... āā ʒss
Rose-water..... f ʒv.
Tr. benzoin..... f ʒi¼
M. Sig.—Apply upon compresses.

IRON rust on muslin or white goods may be removed by saturating the spots with lemon juice and salt, and exposing to the sun. Repeat if necessary. To prevent the appearance of the spots, when the clothes are being washed, it is well to have them enclosed in a muslin bag during boiling.

OINTMENT FOR FRECKLES, ETC.; 5 parts of ammoniated mercury, and bismuth subnitrate, 2 parts olive oil, and 8 parts of glycerite of starch; or, 10 to 20 parts of betanapthol, 25 parts each of starch, and zinc oxide, and enough vaseline to make 100 parts.

THE LIBRARY TABLE.

BOOK REVIEWS.

An Introduction to the Study of Diseases of the Skin. By P. H. Pye-Smith, M. D., F. R. S., F. R. C. P., Physician to the Department of Cutaneous Diseases in Guy's Hospital, London. In one 12mo. volume of 407 pages with 28 illustrations, 18 of which are colored. Cloth $2. Philadelphia, Lea Brothers & Co., 1893.

This Handbook is a reprint, with some variations and additions, of the chapters dealing with diseases of the skin which appears in Fagge's *Practice of Medicine.*

That this monograph should appear in such a notable work, is sufficient to commend it to all practitioners. To the dermatologist, student and teacher this work will be of the greatest assistance, introducing, as it does, the subject in a manner unknown to most modern textbooks. Diseases of the skin should be arranged (as they should be named) like diseases of other organs: *i. e.*, for convenience, either alphabetically or otherwise. The present volume opens with the most common inflammatory diseases, the superficial forms of dermatitis, eczema and its allies, psoriasis, erythema and their allied diseases. Then follow affections of the hair-sacs and cutaneous glands, including ringworm. Next come the deep inflammations and the hypertrophic conditions which result therefrom. Closely allied to the deep chronic forms of dermatitis are the important and well-defined diseases known as lupus and leprosy, and the chapters which treat of these are naturally followed by one on tumors and new growths. Then comes a short section on abnormalities of the cutaneous pigments and of cutaneous innervation, and the subject concludes with a chapter on the practical diagnosis of diseases of the skin in general.

An instructive and useful feature is the introduction of tinted diagrams illustrative of the favorite seats and distribution of cutaneous diseases. This is a point of the greatest practical importance, and one that has been to a large extent neglected by dermatologists since the time of the writings of the late Tilbury Fox.

The volume closes with a section of formulæ, which will prove suggestive and of the greatest assistance to the general practitioner in dealing with this class of troublesome diseases.

Various Forms of Hysterical or Functional Paralysis. By H Charleton Bastian, M. A., M. D., F. R. S. Philadelphia. J. B. Lippincott Company, 1893

The nucleus of this book was published last year in the *Lancet* in the form of four lectures. The records of several new cases have now been incorporated, and the discussion of the subject has, in reference to some points, been still further developed. Attention is called to the error in employing synonymously the terms "hysterical" and "functional" since there are many examples of functional paralysis which cannot properly be classed as hysterical. Indeed, not more than one-third of all functional cases belong to the hysterical group.

A primary division is made in functional paralysis of cerebral type and of spinal type.

The following table gives the characteristics of the type which are differentiated by the author:

CASES OF FUNCTIONAL PARALYSIS OF CEREBRAL ORIGIN.

VARIETIES.	CHARACTERISTICS.
1. Affection of kinæsthetic centres in Rolandic and marginal areas alone.	Loss of muscular sense, with motor paralysis. Also slight loss of tactile sense, with defective power of localizing.
2. Ditto, *plus* an affection of sensory region of internal capsule.	Ditto, *plus* more or less complete hemi-anæsthesia. (The paralysis flaccid or spastic).
3. Affection of sensory region of internal capsule alone.	No motor paralysis. More or less complete hemi-anæsthesia (superficial, or superficial and deep, the latter including loss of muscular sense).
4. Affection of efferent fibres from kinæsthetic centres in Rolandic area.	Aphemia or hysterical mutism. If purely motor paralysis of limbs, then no loss of muscular sense.

CASES OF FUNCTIONAL PARALYSIS OF SPINAL ORIGIN.

5. Affection of pyramidal system of fibres in spinal cord.	Spastic paralysis, with no distinct loss of muscular sense. Also no "cerebral hemi-anæsthesia" or other cerebral symptoms.
6. Affection of anterior cornua in certain segments of spinal cord.	Flaccid motor paralysis, with or without some loss of sensation. No distinct hemi-anæsthesia, and no marked loss of muscular sense.

In order to form a final judgment in doubtful cases, we are ultimately compelled to rely on the following two sets of considerations:

"1. As functional defects tend specially to affect particular regions of the brain and spinal cord, we have to consider whether the grouping of symptoms met with in the case before us in such as our clinical knowledge has taught us may be due to a defect in one or other of such regions.

"2. We have to consider whether the mode of onset, coupled with the patient's general state, together with his or her immediate and remote history and family history, taken as a whole, most strongly favors the notion that we have to do with a malady due to mere functional defect, or to the existence of some organic lesion.

"This may seem a complicated procedure, and not too calculated to land us in certainties; but unfortunately it is the only safe method available for making a trustworthy diagnosis."

The work is concluded by three lengthy appendices: 1st, The "muscular sense:" its nature and cortical localization; 2d, on the neutral processes underlying attention and volition; 3d, Is there a double representation of touch and common sensibility in the cerebral hemispheres? The book is worthy of a careful reading by those interested in this line of work.

International Clinics. A quarterly of Clinical Lectures on Medicine, Neurology, Pediatrics, Surgery, Genito-Urinary Surgery, Gynecology, Ophthalmology, Laryngology, Otology, and Dermatology. By Professors and Lecturers in the leading Medical Colleges of the United States, Great Britain, and Canada. Edited by John M. Keating, M.D., LL.D., Colorado Springs, Col.; Judson Daland, M.D., Philadelphia; J. Mitchell Bruce, M.D., F.R.C.P., London, England; David W. Finlay, M.D., F.R.C.P., Aberdeen, Scotland. Volume I., Third Series, 1893. Philadelphia: J. B. Lippincott Company, 1893.

This issue contains fifty-one articles written by fifty prominent men, most of whom are teachers in schools and hospitals of this country and of Europe.

The subjects selected are timely and will be found valuable by the general practitioner; they are not the mere recital of unusual and curious cases, but are those which the average man is likely to come in contact with, and the offering of many new remedies together with the results and effects will be found of great assistance.

The articles, coming as they do from men with large and varied experiences, not only in hospital work, but in private practice as well, cannot do otherwise than impress and instruct the reader.

CURRENT LITERATURE REVIEWED.

THE SAINT LOUIS MEDICAL AND SURGICAL JOURNAL

for July. Dr. A. H. Ohmann-Dumesnil contributes an article on

Erythema Exfoliativum Recurrens,

discussing several cases reported by other observers and adding the report of a case of his own. The paper is illustrated by cuts showing the patient during the process of skin shedding in one case and the gloves cast off from the hands in another. The treatment adopted by the author, in the case observed by him, consisted in the use of quinine in three grain doses every three hours, as the symptoms of the case were always strikingly malarial.

For the condition of the skin which succeeded desquamation, the following ointment was ordered with complete success, as it proved efficient in relieving the sensitiveness of the denuded integument and caused a disappearance of the pruritus, besides acting as an efficient protective during the complete restoration of the horny layer.

℞ Campho-phenique..... ʒj.
Albolene (solid)..... ʒiij.
M. Ft. Ungt.

A few points which have been noticed by the patient and to which she has drawn attention, are the following: Each attack of desquamation comes on just one week before the menstrual flow. Her attention was called to this circumstance by the fact that it occurred each time in that way, and it can hardly be looked upon as a coincidence. She further states that after taking an ordinary dose of quinine, she experiences a prickling, tingling pain in the thumb. On this account she is inclined to believe that the general desquamation is due to the remedy, but this is evidently a *non-sequitur*.

The author is of the opinion that relapsing desquamative erythema is beyond all doubt a trouble due to disturbance of the trophic nerves.

The treatment is a very simple one, consisting merely in protecting and soothing measures. Whilst in many cases symptomatic treatment has been employed, there is no evidence that it exercised any particular beneficial action, as far as the cutaneous symptoms were concerned. The protective measures employed have certainly had a direct effect as prophylactics in preventing a possibly graver condition which might be induced by irritation due to an extraneous source. Of course, such measures are not only proper and rational, but even imperative. To neglect their application would certainly argue a disregard for the patient, but also a serious disregard for the exigencies of the case in hand.

Dr. C. Bernard Wolff contributes a translation of a paper by Dr. P. G. Unna, of Hamburg, on "Inflammation and Chemostasis."

Dr. W. P. Manton discusses the subject of "The Diagnosis of Abdominal Tumors," showing the various means by which the position, size and probable character of the condition is discovered. The author regrets that abdominal surgery is regarded in some quarters as so simple a branch of surgery that men rush into it without the proper training.

Dr. Frank Woodbury contributes a clinical lecture on the "Treatment of the Gouty

State." In the treatment he regards the use of some good natural lithia water as very essential, the good effects of which he ascribes to the peculiar combination of the various salts which it contains as much as to the amount of lithia present. He thinks the profession is inclined to take too narrow a view of gout at the present day and, instead of the gout being caused by the uric acid in the system, he regards the disease as being responsible for the excess of uric acid.

The remaining papers in this issue are: "Prognostic Aphorisms" translated from the French of Dr. Gabriel Reignier by Dr. Charles Everett Warren; and the report by Dr. C. H. Powell of a "Case of Hæmato-Salpinx and Pelvic Hæmatocele." The patient recovered from the laparotomy.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES,

for August. Dr. James J. Putnam contributes a paper on

Cases of Myxœdema and Acromegalia Treated with Benefit by Sheep's Thyroids.

The author states that the method of administration by the stomach has not failed in any genuine case and moderate quantities are sometimes so effective that we have no reason to conclude that any considerable part of the dose passes unabsorbed in most conditions of the stomach and intestines. The loss of weight is an early sign of improvement; but it sometimes goes beyond the requirements of health, which fact suggests that under certain conditions, the thyroid secretion may modify the tissue changes even of healthy persons. Immediately after the injections, and even after the stomach doses, of thyroid, there is sometimes a rise of temperature and pulse, increased secretion of urine, faintness or headache, and other symptoms; as the treatment goes on these symptoms may continue for a time, and be associated with prostration, cardiac weakness, anginoid, neuralgic, or other pains, and even albuminuria. It is striking that these unpleasant signs sometimes continue for weeks after the suspension of treatment.

The paper contains the report of a case observed by the author and an exhaustive discussion of the subject of myxœdema in which the literature of the subject is very thoroughly investigated.

Chloroma and its Relation to Leukæmia

is the title of a paper by Dr. George Dock. The case observed by the author raises the number of reported cases to seventeen. In all cases the most obvious point in common is the peculiar color of the morbid growths found, which suggested the name chloroma or cancer vert. In the author's own case the color could best be described as pea-green. It differed, however, in various parts, so that some were pale sage-green, others darker, or again with pink, brown or red stains. The small growths in the liver and kidneys were almost white, but in the pancreas and thymus the color was distinctly green, though pale. The color gradually faded from the preserved specimens. Owing to the fact that the solutions were frequently changed, it is impossible to tell whether the color was dissolved out or bleached. The cause of the color still remains unknown. The external surface of the tumors were smooth or nodular—tumors proper, as distinguished from uniform infiltrations, being usually nodular. In regard to the seat of these growths: In all cases reported some part of the head was affected. Less frequently we find the green substance in the periosteum of the vertebræ and ribs adjoining. The marked predilection of the periosteum, especially that of the head, has been noticed by all observers, and most of them look on some part of the periosteum of the head or face as the starting point. The new growths are sarcomatous, in the sense that they are "connective tissue formations, with excessive development of the cellular elements." For the present, the author thinks we cannot do better than to use the term "Chloroma" in describing these tumors and some synonym, as lymphoma, lymph-adenoma, lympho-sarcoma, or myeloma, could be used to express peculiar features or the views of the reporter.

Chloroma is most frequently in early life—the average age of fifteen cases being 15–26 years. The course of the disease is short. The average duration, in twelve cases in which it is given, is five months. Exciting causes are rarely given in the reported cases. In one case the disease began with toothache, and the disease first appeared in the site of the extracted tooth. The fact that three cases were observed in Prague, three in Glasgow, and two in Paris seems worth noting. The family and previous histories were usually good.

The important points in the diagnosis are: The appearance, usually below the age of twenty, of anæmia without evident cause, with loss of strength, dyspnœa and emaciation; hemorrhages in skin, mucous membranes (epistaxis) or internal organs (retina); rapid pulse; ocular symptoms, such as difficulty of vision, strabismus and especially exophthalmus, without the special features of Basedow's disease and with tumor in the orbit; deafness and ringing in the ears; tumors under the temporals or on the cranium in other parts, or in other parts of the body. Before the appearance of the tumors the diagnosis would be doubtful, but after the appearance of tumors in the orbit and under the temporals it could be made almost with certainty.

In such cases the blood should be examined by all the methods known, either to detect an increase or alteration of the leucocytes already present, or, if that be not found, examinations should be made at short intervals in order to observe the possible event of a leukæmic condition, which might come on only a short time before death. The spleen, liver, lymph glands and bones should be examined with reference to alteration in size and tenderness. The literature of the subject is thoroughly discussed in the article which is illustrated with a portrait of the

patient whose case is described and also a colored print of the microscopical appearance of the blood.

Dr. Douglas Graham contributes a paper on

Massage in Muscular Rheumatism, and its Possible Value in the Diagnosis of Muscular Rheumatism from Neuritis.

The author ventures the suggestion that when a case of apparent muscular rheumatism does not only not yield but also does not stay improved after massages, then the probability is that the case is one of neuritis affecting the nerve fibres that supply the impaired muscles. This probability would be strengthened when the pain is uniform, affecting the same muscles on both sides, when it is worse at night whilst the patient is at rest and warm in bed, and better when up, moving about, which calls into play the inhibitory action of the will; whereas muscular rheumatism is aggravated by motion and relieved by rest and warmth. The difference in favor of neuritis would be increased when the consistence of the affected muscles does not differ from that of the well muscles or is somewhat diminished.

The relief from discomfort, and freedom of motion experienced after each massage, in those cases which are too apt to be snappily diagnosed as muscular rheumatism, but most likely are neuritis, is so great that, though the temporary improvement may not be held, yet the patient is apt to demand that the massage be continued until the ultimate result, which, with appropriate internal medication, should be recovery.

The Anatomy of the Vermiform Appendix

Is discussed by Dr. A. Hewson in a paper on the subject. In his researches the author examined seventy-four subjects. In twenty-eight subjects the most frequent position for the appendix in relation to the ileum was below and behind, remaining in the false pelvis. The next most frequent was below the ileum, remaining in the false pelvis.

In sixteen subjects it was either below and behind the ileum in the cavity of the true pelvis and in the remaining eight was either below or behind the ileum and above the innominate crest, i. e., not in the false pelvis even. In fifty-seven subjects the position of the appendix was on the inner and posterior aspects of the colon, and in the order and number of frequency—inner, eight; posterior, six; and inferior, two. The average distance from the anterior superior spine of the ileum to the base of the appendix was 7.2 cm. The average measurement from the anterior superior spine of the ileum to the apex of the appendix was 8.3 cm. The average distance from the umbilicus to the base of the appendix was 8.1 cm. The average distance from the umbilicus to the apex of the vermiform appendix was 10.1 cm. The great variation in the amount of mesentery belonging to the appendix leads the author to the conclusion that one must always expect to find the mesentery extending more than one-half the length of the appendix, and that from its free extremity one must expect great latitude of position—which may be assumed both on account of its length and also on account of the manner in which its mesentery is attached.

Dr. Charles J. Foote presents the "Report of a Case of Grangrenous Stomatitis, with a Bacteriological Examination."

Dr. John K. Mitchell presents the report of "A Case of Local Catalepsy," the left hand being affected. The author states that he is unable to find the report of a similar case.

PERISCOPE.

THERAPEUTICS.

Poisoning with Turpentine.

Carvete (*Canadian Practitioner*) has reported the case of a woman who at bedtime, took half an ounce of old spirit of turpentine mixed with an ounce of whiskey, in mistake for castor oil. The mistake was only noticed after the turpentine had been swallowed, but nothing was done at the time except to take a dose of castor oil. The patient shortly afterward fell asleep, but was awakened in the course of five hours with sickness of stomach. A little later she vomited, and after the lapse of several hours more she had a convulsion, followed by loss of consciousness. The pulse was weak, feeble, rapid; the face and lips pale; the patient restless, at times delirious and talking incoherently, but capable of being partly roused. Urine had been passed in generous quantity. Whiskey, spirit of nitrous ether, milk, and sweet oil were given, and warmth was applied to the body. Vomiting was induced by irritating the fauces. The vomited matters had a strong odor of turpentine ten hours after the fluid had been taken. After free vomiting, consciousness was regained and complaint was made of a burning pain in the right leg. Examination disclosed the presence upon the posterior aspect of the knee of a blister 5 by 12 inches in extent, the contents of which were watery and emitted an odor of turpentine. Gangrene of the superficial parts took place in this area, and fifteen weeks elapsed before the resulting ulcer healed.

Therapeutic Effect.

This interests the physician, who is desirous of establishing a reputation for success; interests the pharmacist, who desires to establish the confidence of the physician in the remedies furnished, and interests the patient, who is anxious to make a speedy recovery.

IT IS OFTEN A DISAPPOINTMENT.

1. Because the patient does not follow directions.
2. Because drugs cannot benefit the case.
3. Because the dosage is incorrect.
4. Because a wrong remedy is selected.
5. The remedy is deficient in strength or is over active.
6. The vices or habits of the patient neutralize or abort treatment.—*Phar. Era.*

MEDICINE.

Parotiditis Complicated by Orchitis, Prostatitis, and Hemoptysis.

Comby (*L'Union Medicale*) has reported the case of a gardener, twenty-nine years old, who, after having worked all day in a hot house, was seized at night with a chill; the right testicle was noted to be swollen, red, heavy and painful. During the night there occurred sweats, with headache, pain in the back and in the extremities, so that sleep was prevented. There was also evidence of the existence of a mild prostatitis. On the following day delirium set in, and a day later still painful swellings appeared in both parotid regions. There were fever and dyspnea, and in the midst of a paroxysm of coughing, profuse hemoptysis occurred. Improvement now soon set in and in a short time the man was convalescent. Examination of the chest failed to disclose evidence of organic disease; neither did the urine present any abnormality. The treatment employed consisted in the administration of quinine sulphate, purgation, the application of emollient compresses to the testicles, and a milk diet.

Peculiar Symptoms in an Infant Due to Contracted Prepuce.

Dr. S. E. Moses, reports a case of an infant, two months old, weak and delicate, who was suffering from an attack of whooping cough, was suddenly one night attacked by what was described as inward convulsions. I sought the aid of Dr. Crombie, and on enquiry found that the child generally cried before passing urine, and that the so-called fits came on every two hours or so. Our attention was drawn, therefore, to the urinary organs, and we found a long tight prepuce with a pin-point opening. We were fortunate, for while we were examining the child, a fit came on. There was no convulsive twitchings nor spasms of any kind; on the contrary the child lay limp and lifeless; the respiration stopped, and we had to resort to artificial breathing for some time before the infant breathed, and then it came in gasps for some minutes till eventually the respiration became normal. The heart beats were 20 in the minute, and gradually as the respiration returned they rose to 120. The lips were livid, the eyes fixed and not sensitive to touch. The child passed urine and the fit shortly after wore off. I watched the child in several such attacks—some lasting 15 to 20 and 26 minutes. Dr. Crombie and I gave strychnine, but without effect, so on the following day we decided upon slitting up the foreskin, which we did, and no fit such as described has again returned. I would wish in this case to point out the crying of the child before the passing of water, the regularity of the return of fits every two hours, the time the bladder took to fill: and the passing of water before the fit wore off, and the immediate cessation of fits after the operation.—*Indian Med. Gaz.*

How to Give a Fomentation.

Doubtless every physician knows how to apply a fomentation, yet the following suggestions may be of value to some one (*Jour. Bact.*): A flannel cloth may be folded, wrung out of hot water, and applied directly to the skin; nevertheless, it is much better, after wringing out the flannel as dry as desired, to fold it in a dry flannel cloth of one or two thicknesses before applying it to the patient. A little time is required for the heat of the fomentation to penetrate the dry flannel, and thus the skin is allowed an opportunity to acquire tolerance for the heat, and a greater degree of temperature can be borne than if the moist cloth is brought directly in contact with the surface. The outer fold of dry flannel will also serve to keep the cloth warm by preventing evaporation.

A fomentation is sometimes needed when no hot water is at hand. It is not necessary to wait for water to be heated in the usual way. Soak the flannel in cold water, wring as dry as desired, fold in a newspaper, and lay upon the stove or wrap it about the stovepipe. In a few minutes it will be as warm as the patient can bear. The paper keeps the pipe from becoming moistened by the wet flannel, and at the same time prevents the flannel from being soiled by contact with the pipe.

Fomentations thoroughly applied will relieve most of the local pains for which liniments, lotions and poultices are generally applied, and are greatly to be preferred to these remedies, since they are cleaner and aid nature more effectually in restoring the injured parts to a sound condition.

ARMY AND NAVY.

U. S. ARMY FROM JULY 30, 1893, TO AUGUST 5, 1893.

Major Alfred A. Woodhull, Surgeon U. S. Army, is granted leave of absence for one month and fifteen days, on account of sickness, to take effect on or about August 15th, 1893.

Leave of absence for two months, to take effect about August 10th, 1893, is granted Captain Edward C. Carter, Assistant Surgeon U. S. Army.

Captain Walter D. McCaw, Assistant Surgeon, is relieved from duty at Camp Pilot Butte, Wyoming, and ordered to the Presidio of San Francisco, California, for duty.